

# COMPAL CONFIDENTIAL

MODEL NAME : EDC42

PCB NO : LA-H171P

BOM P/N :

GPIO MAP: X10\_WHL\_KBL\_CFLH\_GPIO map Rev1.5\_20180921

PWR Circuit: 14UMA\_A00\_PWR\_20190308A

## Brook Hollow 14 UMA (TBT)

Coffee Lake H

2019-03-20

REV : 1.0 (A00)

@ : Nopop Component

EMI@ : EMI Component

@EMI@ : EMI Nopop Component

ESD@ : ESD Component

@ESD@ : ESD Nopop Component

RF@ : RF Component

@RF@ : RF Nopop Component

XDP@ : XDP Component

CONN@ : Connector Component

5105@ : EC MEC5105 IC

5106@ : EC MEC5106 IC

WWAN@ : WWAN Component

WWANRF@ : WWAN RF Component

eSPI@ : eSPI interface

LPC@ : LPC interface

DS3@ : Deep sleep support

NDS3@ : non Deep sleep support

RTD3@ : RTD3 support

NRD3@ : non RTD3 support

VPRO@ : VPRO support

NVPRO@ : non VPRO support

ST33@ : ST33 TPM support

750@ : NPCT750 TPM support

JUMP@ : Jump solder and short

@JUMP@ : Jump no solder

SATAPERI@ : Pericom SATA repeater support

SATAPARA@ : Parade SATA repeater support

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Cover Sheet

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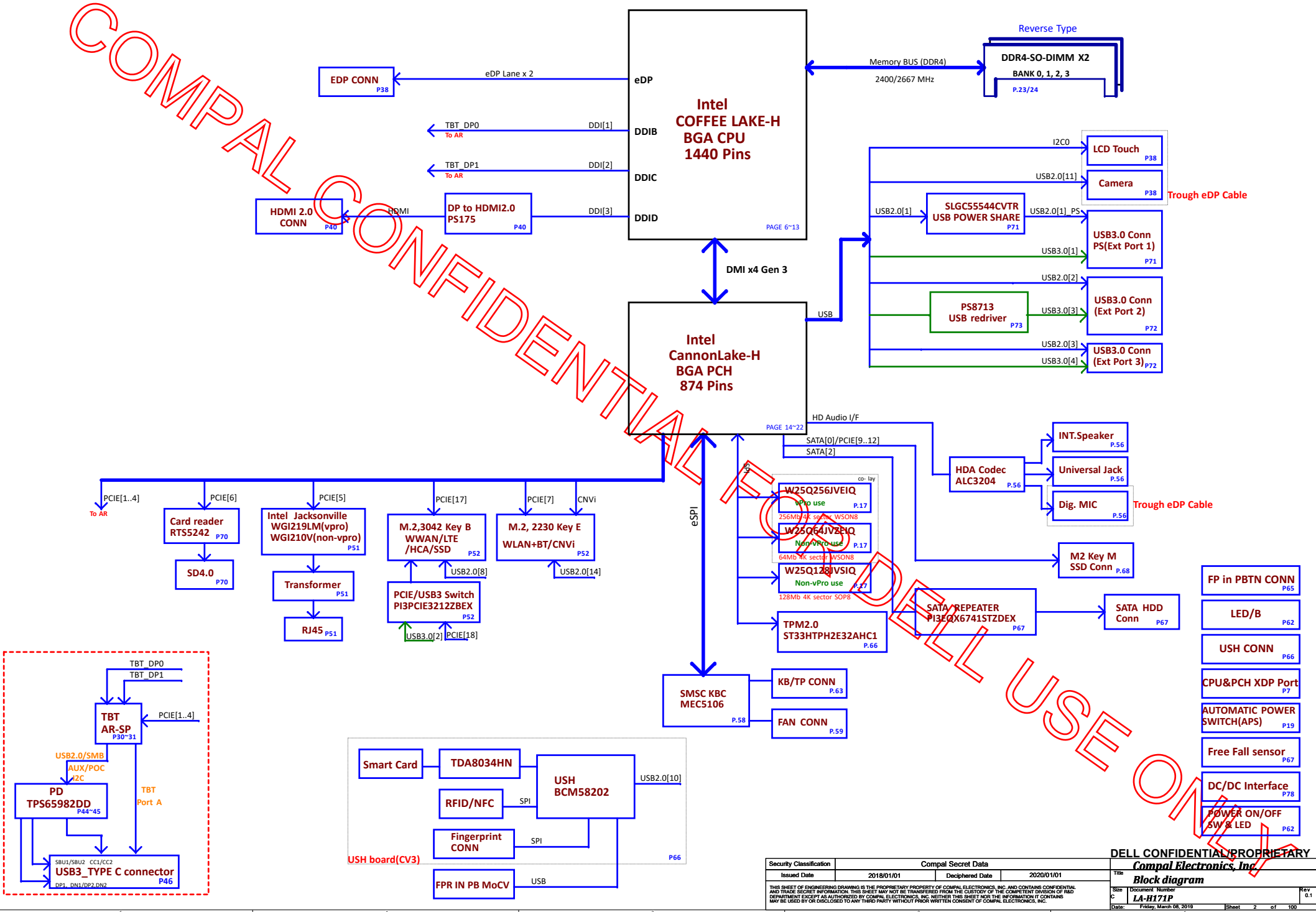
Part Number	Description
DAA000J2000	PCB 2FB LA-H171P REV0 MB 1

Layout Dell logo



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REV: A00  
PWB: J11RG

Brook Hollow 14 UMA TBT Block Diagram



## POWER STATES

Signal State	SLP S3#	SLP S4#	SLP S5#	SLP A#	ALWAYS PLANE	M PLANE	SUS PLANE	RUN PLANE	CLOCKS
S0 (Full ON) / M0	HIGH	HIGH	HIGH	HIGH	ON	ON	ON	ON	ON
S3 (Suspend to RAM) / M3	LOW	HIGH	HIGH	HIGH	ON	ON	ON	OFF	OFF
S4 (Suspend to DISK) / M3	LOW	LOW	HIGH	HIGH	ON	ON	OFF	OFF	OFF
S5 (SOFT OFF) / M3	LOW	LOW	LOW	HIGH	ON	ON	OFF	OFF	OFF
S3 (Suspend to RAM) / M-OFF	LOW	HIGH	HIGH	LOW	ON	OFF	ON	OFF	OFF
S4 (Suspend to DISK) / M-OFF	LOW	LOW	HIGH	LOW	ON	OFF	OFF	OFF	OFF
S5 (SOFT OFF) / M-OFF	LOW	LOW	LOW	LOW	ON	OFF	OFF	OFF	OFF

## PM TABLE

power plane State	+5V_ALW +3.3V_ALW +3.3V_ALW_DSW +3.3V_ALW_PCH +RTC_CELL +1.8V_PRIM +1.0V_PRIM +1.0V_PRIM_CORE +5V_ALW2 +3.3V_ALW2 +3.3V_RTC_LDO +1.0V_MPHYGT	+3.3V_SUS +1.2V_MEM +1.0V_VCCST +2.5V_MEM	+5V_RUN +3.3V_RUN +0.6V_DDR_VTT +1.2V_RUN +VCC_CORE +VCC_GT +1.0VS_VCCIO +VCC_SA +1.8V_RUN
S0	ON	ON	ON
S3	ON	ON	OFF
S5 S4/AC	ON	OFF	OFF
S5 S4/AC doesn't exist	OFF	OFF	OFF

Layer No.	Name	Er	Material	Thickness (Material SPEC.) Unit : mil	Thickness (Actuality) Unit : mil
			SolderMask	IT-158	0.50
			Add Plating		0.95
1	Top		Copper foil	0.5oz	0.65
		3.7	Prepreg	1080	2.60
2	GND1		Copper foil	1oz	1.35
		3.7	Core	4mil	4.00
3	Sig1		Copper foil	1oz	1.35
		3.6	Prepreg	2116HRCx2	8.90
4	GND1/PWR		Copper foil	1oz	1.35
		3.7	Core	4mil	4.00
5	Sig2		Copper foil	1oz	1.35
		3.6	Prepreg	2116HRCx2	8.20
6	Sig3		Copper foil	1oz	1.35
		3.6	Core	4mil	4.00
7	GND2		Copper foil	1oz	1.35
		3.7	Prepreg	1080	2.60
8	Bottom		Copper foil	0.5oz	0.65
			Add Plating		0.95
			SolderMask		0.50
Overall Thickness (1.2mm ± 10%)				47.2	46.60000
					1.18364

Flex I/O Lane	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
High Speed I/O (HSIO) Type and Lane	USB3.1 #1	USB3.1 #3	USB3.1 #4	USB3.1 #5	USB3.1 #6	USB3.1 #7	USB3.1 #8	USB3.1 #9	USB3.1 #10	PCIe #4	PCIe #5	PCIe #7	PCIe #8	PCIe #9	PCIe #10	PCIe #11	PCIe #12	SATA 1a	SATA 1b	PCIe #13	SATA 2	PCIe #14	SATA 3	PCIe #15	SATA 4	PCIe #16	SATA 5	PCIe #17	PCIe #18	PCIe #19
Intel® RST Support								No Support	No Support					Yes	No Support	Yes	Yes													

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USB3.0	SSIC	PCIE	SATA	DESTINATION
USB3.0-1				JUSB1-->Right
USB3.0-2	SSIC-1			JNGFF2-->M2 3042(LTE)
USB3.0-3	SSIC-2			JUSB2-->LEFT
USB3.0-4				JUSB3-->RIGHT
USB3.0-5				NA
USB3.0-6				NA
USB3.0-7		PCIE-1		Alpine Ridge - SP
USB3.0-8		PCIE-2		
USB3.0-9		PCIE-3		
USB3.0-10		PCIE-4		
		PCIE-5		LOM
		PCIE-6		Card Reader
		PCIE-7		JNGFF1-->M.2 2230(WLAN)
		PCIE-8		NA
		PCIE-9		M.2 Socket 3 (Key M) M.2 2280 SSD (PCIex4 or SATA)
		PCIE-10	SATA-0A	
		PCIE-11	SATA-1A	
		PCIE-12	SATA-1A	
		PCIE-13	SATA-0B	NA
		PCIE-14	SATA-1B	NA
		PCIE-15	SATA-2	JSATA1-->HDD SATA
		PCIE-16	SATA-3	NA
		PCIE-17	SATA-4	M.2 3042 (HCA or QCA LTE) SSD Cache
		PCIE-18	SATA-5	M.2 3042 (HCA or QCA LTE) SSD Cache
		PCIE-19		NA
		PCIE-20		NA

USB PORT#	DESTINATION
1	JUSB1-->Right
2	JUSB2 -->LEFT
3	JUSB3-->RIGHT
4	FP IN PB
5	TI PD
6	test point
7	NA
8	JNGFF2-->M2 3042(WWAN)
9	NA
10	JUSH1-->USH
11	JEDP1-->Camera
12	NA
13	NA
14	JNGFF1--> M.2 2230(CNVi_BT)

USH	H	BIO
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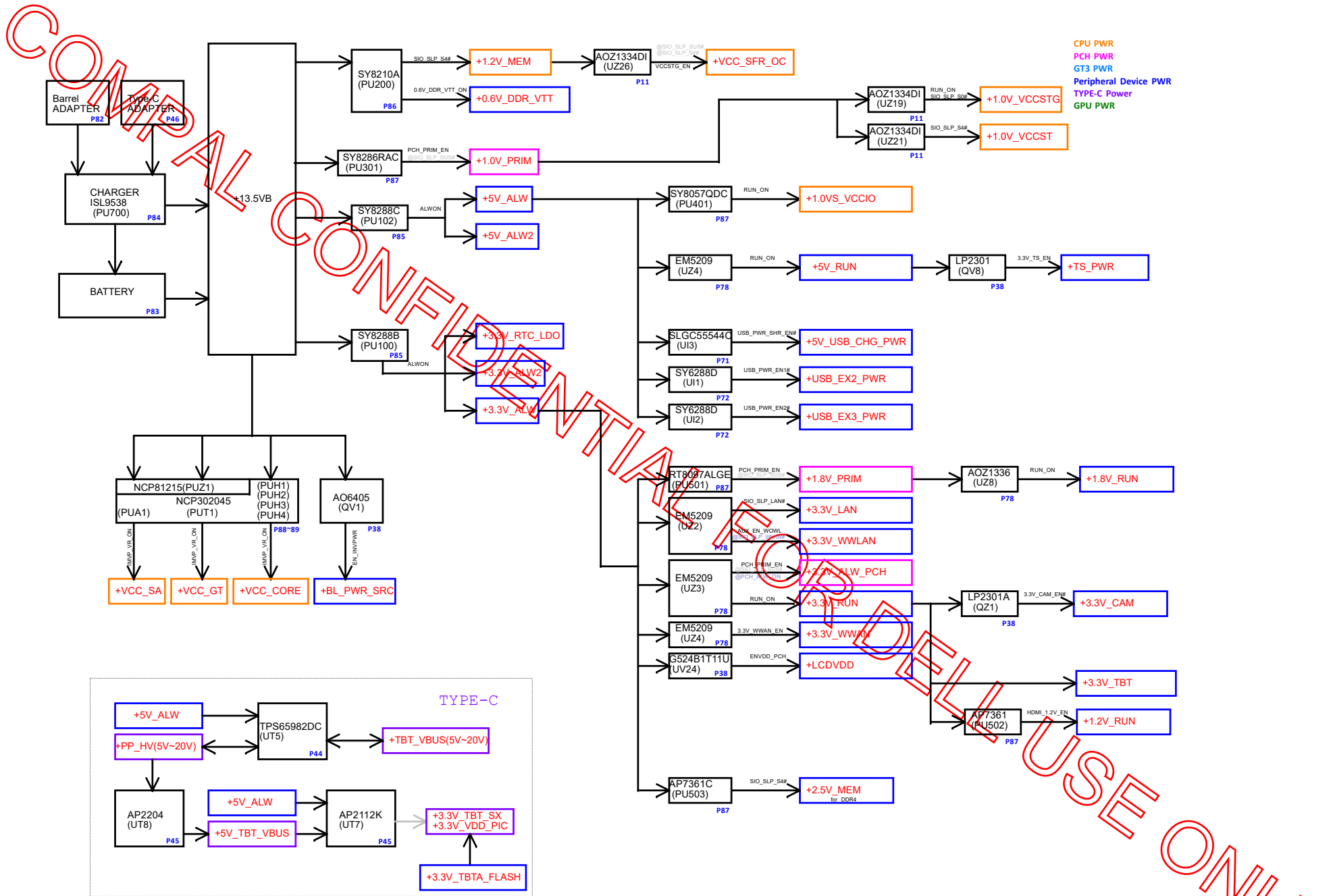
VIDEO	DESTINATION
eDP	LCD
DDI-B	Alpine Ridge - SP (Port 0)
DDI-C	Alpine Ridge - SP (Port 1)
DDI-D	PS175 --> JHDMI1

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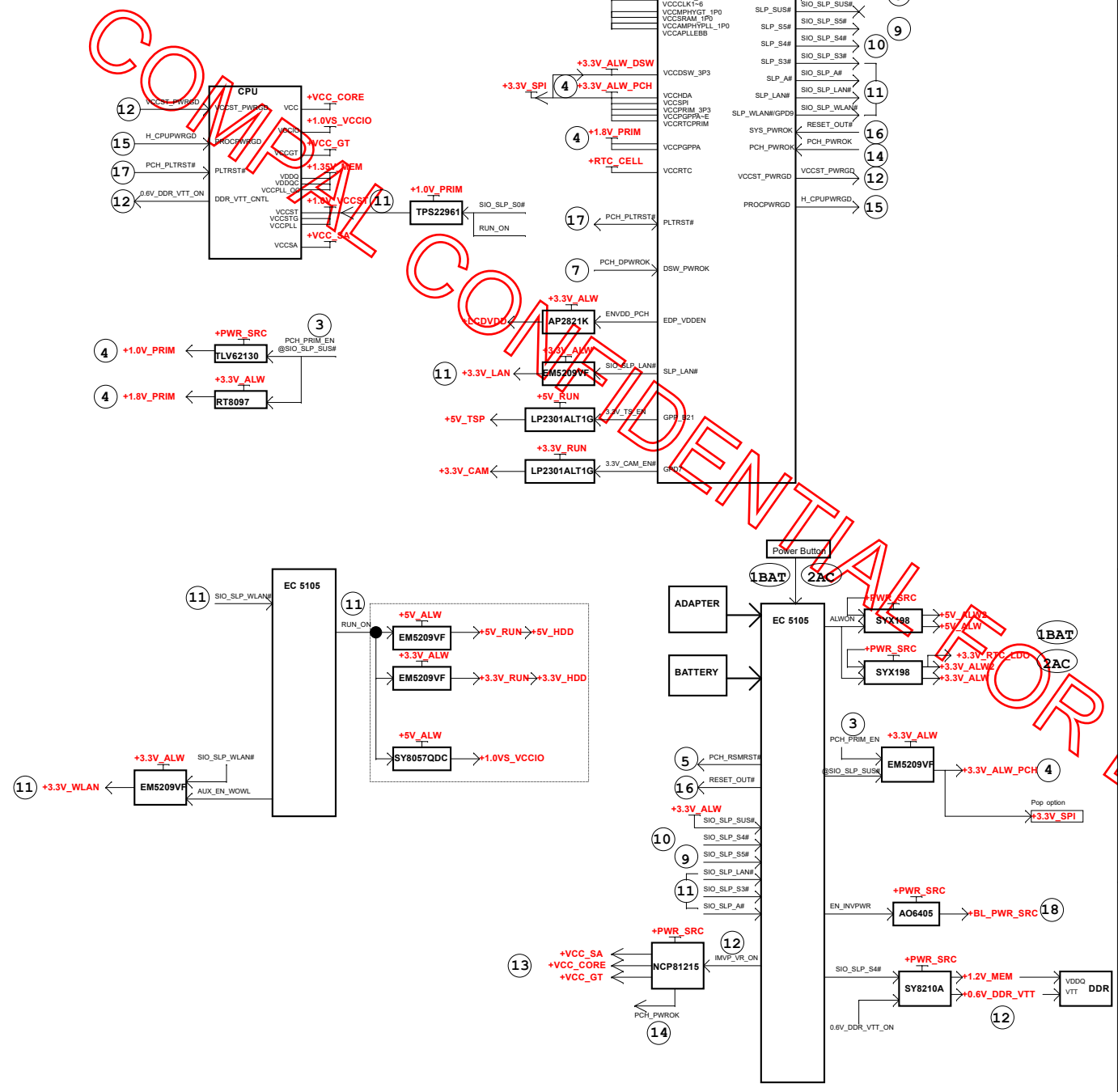
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Port Assignment

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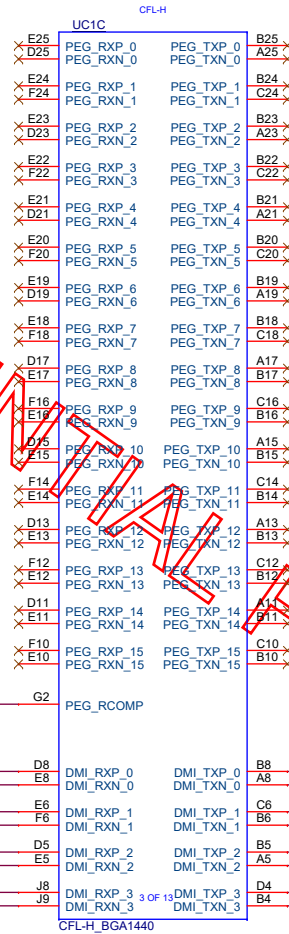


Timing Diagram for S5 to S0 mode

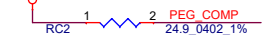


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+1.0VS\_VCCIO



Trace width=5 mils  
Spacing=15mil  
Max length= 600 mils.

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Title  
CFL-H (1/8)

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**CFG11**

RC441 1K\_0402\_5%

DMI_AC_coupled	
HALF-SWING DC coupled	1
FULL-SWING AC coupling	0

**CFG12**

RC442 1K\_0402\_5%

PMSYNC2.0	
	1
LEGACY	0

**CFG9**

RC439 1K\_0402\_5% +1.0VS\_VCCIO

SVID NOT Present	
Present	1
Not presnet	0

**CFG8**

RC437 1K\_0402\_5%

CFG UNLOCK	
disable	1
enable	0

**CFG1**

RC436 1K\_0402\_5%

PCHLESS MODE (CRB) Reserved CFG lane (EDS)	
NORMAL	1
PCHLESS	0

**CFG13**

RC443 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG0**

RC321 1K\_0402\_5%

Stall reset sequence after PCU PLL lock until de-asserted	
No Stall	1
Stall	0

**CFG2**

RC181 1K\_0402\_5%

PEG LANE REVERSAL	
NORMAL	1
LANE REVERSED	0

**CFG4**

RC322 1K\_0402\_5%

eDP enable	
Disabled	1
Enabled	0

**CFG5**

RC323 1K\_0402\_5%

PCI Express* Bifurcation [6:5]	
1x8, 2x4	00
Reserved	01
2x8	10
1x16	11

**CFG6**

RC324 1K\_0402\_5%

PEG Training	
PEG Training immediately following BIOS de-assertion	1
PEG Training for BIOS for training	0

**CFG10**

RC440 1K\_0402\_5%

SAFE mode boot	
active	1
Not active	0

**CFG3**

RC438 1K\_0402\_5%

PCHLESS MODE (CRB) Reserved CFG lane (EDS)	
NORMAL	1
PCHLESS	0

**CFG7**

RC435 1K\_0402\_5%

PCHLESS MODE (CRB) Reserved CFG lane (EDS)	
NORMAL	1
PCHLESS	0

**CFG14**

RC444 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG15**

RC445 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG16**

RC446 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG17**

RC447 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG18**

RC448 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG19**

RC449 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG20**

RC450 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG21**

RC451 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG22**

RC452 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG23**

RC453 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG24**

RC454 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG25**

RC455 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG26**

RC456 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG27**

RC457 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG28**

RC458 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG29**

RC459 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

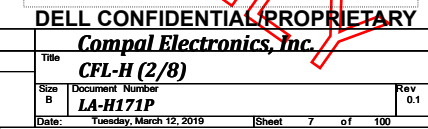
**CFG30**

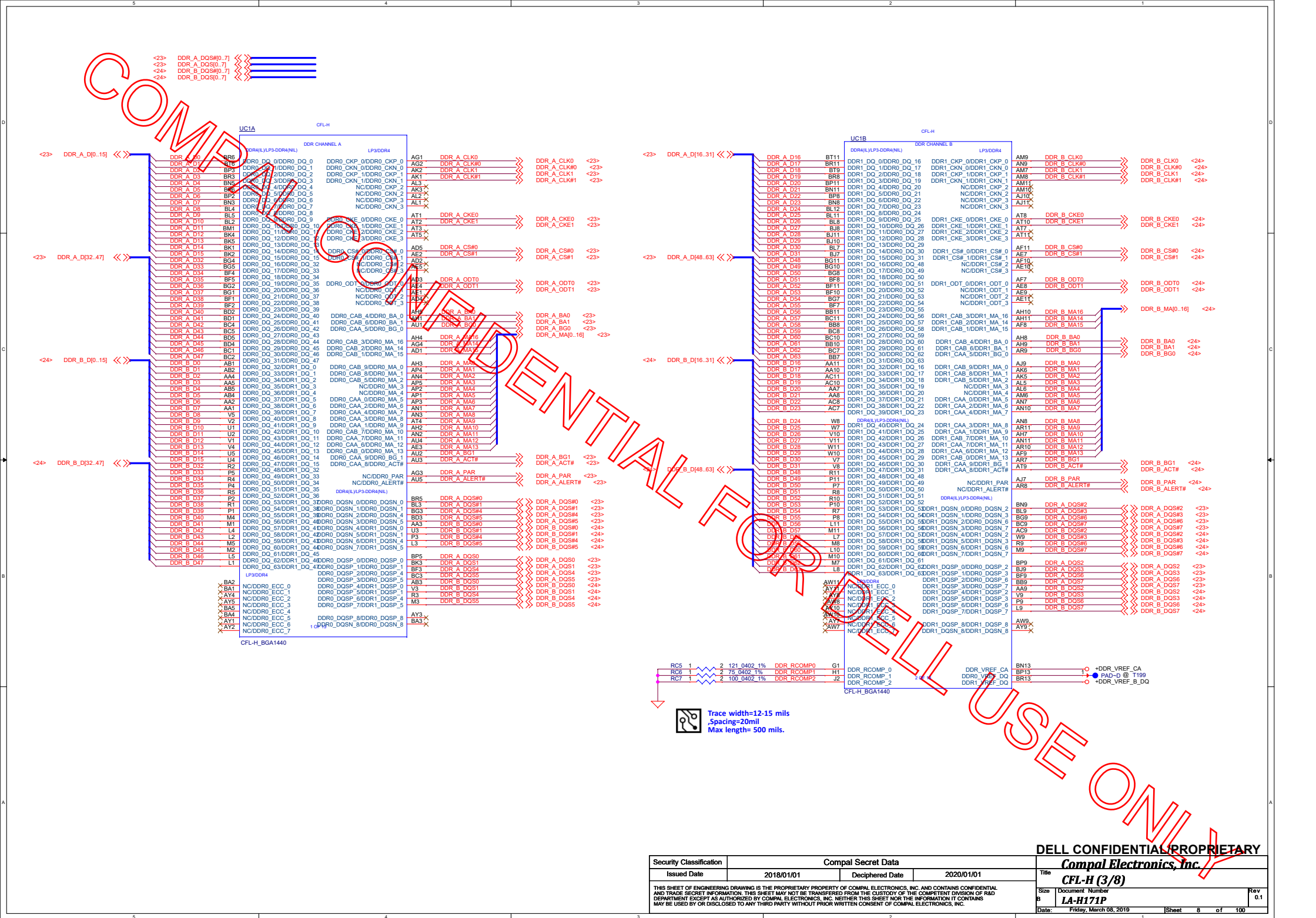
RC460 1K\_0402\_5%

SYNC & AYNc MODE	
ASYNCHRONOUS	1
SYNCHRONOUS	0

**CFG31**

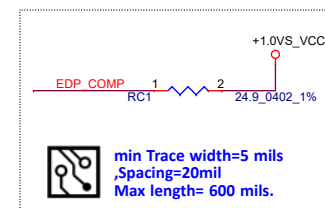
RC461 1K\_





028 AUD\_AZACPU\_SDI >> 1 RC66 2 AUD\_AZACPU\_SDI\_R >> AUD\_AZACPU\_SDI\_R <18>  
20\_0402\_5%

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**CFL-H (4/8)**



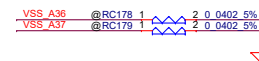
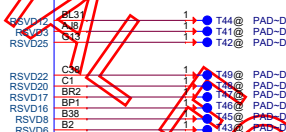
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Pin-to-pin comparison diagram for RSVD01 and RSVD10. The diagram shows two columns of pins on the left (PADD, PAD-D, PAD-D, PAD-D) and two columns of pins on the right (RSVD, RSVD). Each pin is connected to a specific signal or power source. A large red watermark 'COPYRIGHT' is overlaid diagonally across the diagram.

Left Pin	Left Signal	Right Pin	Right Signal
PADD @T4	1	E2	RSVD01_T5
PAD-D @T3	1	E3	IST_TRIG
PAD-D @T2	1	E1	RSVD01_T4
PAD-D @T1	1	D1	RSVD01_T3
PAD-D @T5	1	BR1	RSVD01_T1
PAD-D @T6	1	BT2	RSVD01_T2
PAD-D @T7	1	BN35	RSVD01
PAD-D @T9	1	J24	RSVD028
PAD-D @T10	1	H24	RSVD027
PAD-D @T8	1	BN33	RSVD014
PAD-D @T11	1	BL34	RSVD013
PAD-D @T14	1	N29	RSVD030
PAD-D @T13	1	R14	RSVD031
PAD-D @T15	1	E29	RSVD02
PAD-D @T12	1	A17	RSVD1
PAD-D @T28	1	AP9	RSVD6
PAD-D @T27	1	A11	RSVD5
	VSS_A36	A36	RSVD01
	VSS_A37	A37	VSS_A37
	PCH_2_CPU_TRIGGER	J23	FPD01_TRIGGER
	CPU_2_PCH_TRIGGER_R	J23	FPD01_TRIGGER_R
PAD-D @T28	1TP_SKL_F30	F30	RSVD24
PAD-D @T28	1TP_SKL_E30	E30	RSVD23
PAD-D @T18	1	B30	RSVD12
PAD-D @T19	1	C30	RSVD21
			RSVD25
PAD-D @T21	1	G3	RSVD26
PAD-D @T20	1	J3	RSVD29
			RSVD022
			RSVD020
PAD-D @T23	1	BR35	RSVD17
PAD-D @T24	1	BR31	RSVD16
PAD-D @T22	1	BH30	RSVD18
			RSVD8
			RSVD6

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CFL-H BGA1440



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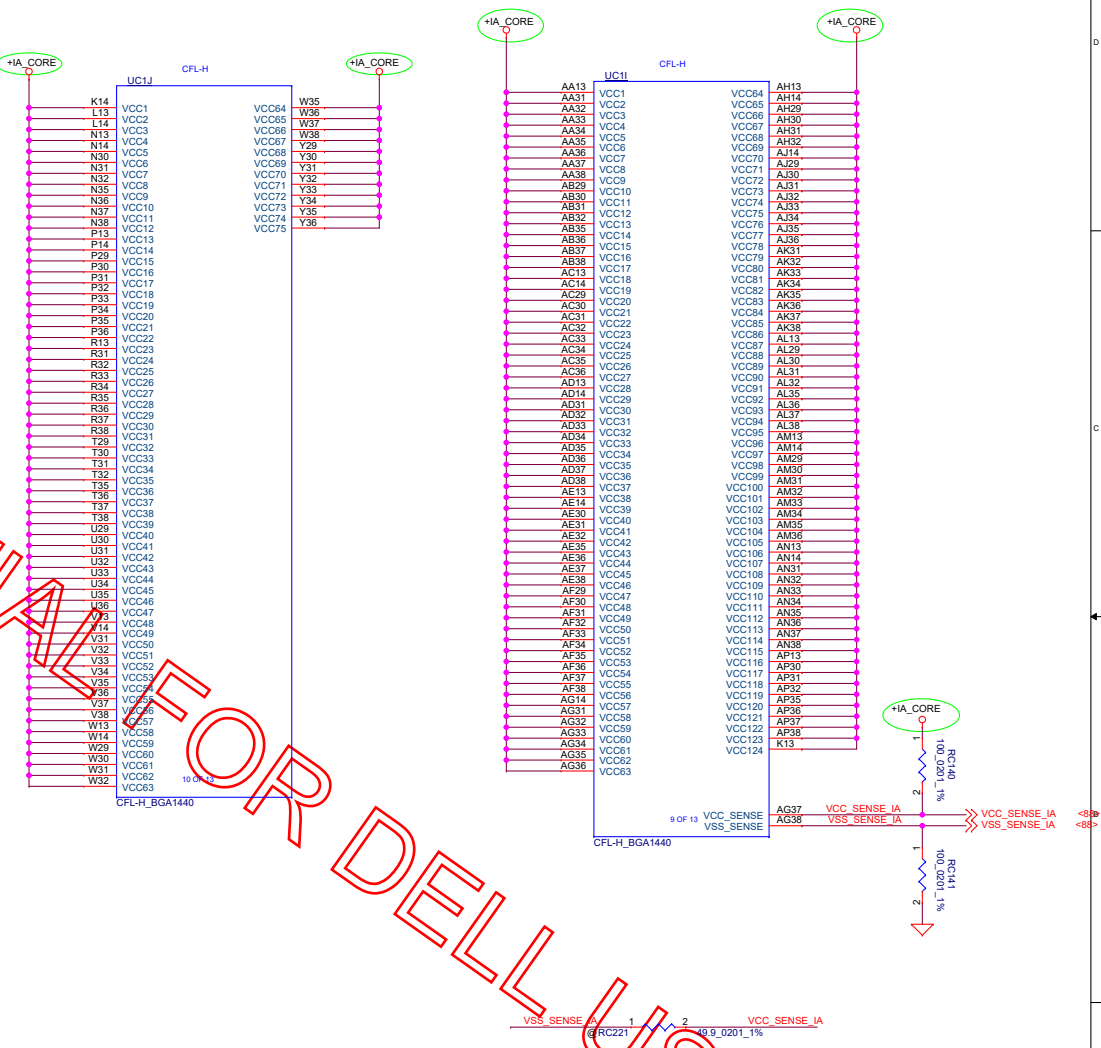
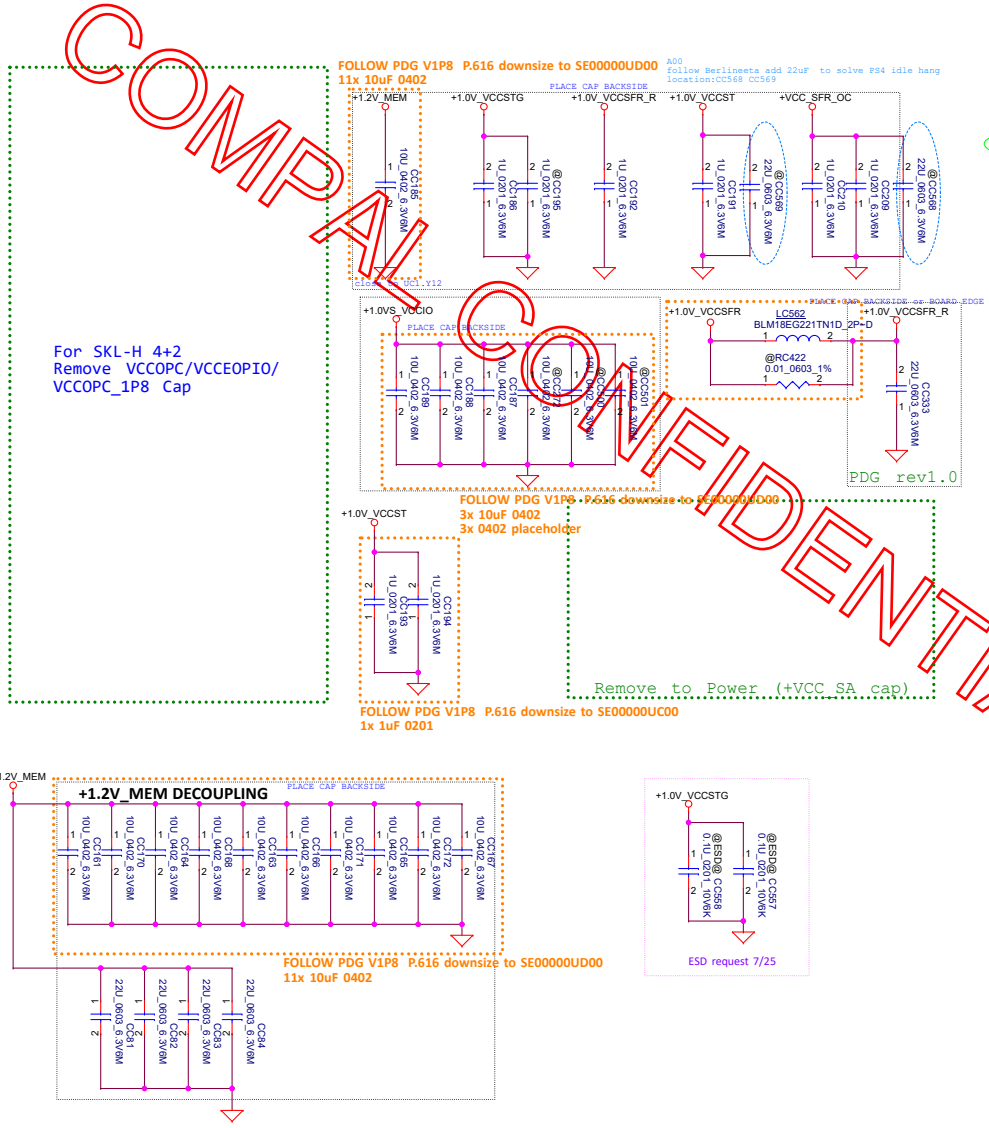
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CFL-H		
UC1F		AK4
A10	VSS 1	VSS 82
A12	VSS 2	VSS 83
A16	VSS 3	VSS 84
A18	VSS 4	VSS 85
A20	VSS 5	VSS 86
A22	VSS 6	VSS 87
A24	VSS 7	VSS 88
A26	VSS 8	VSS 89
A28	VSS 9	VSS 90
A30	VSS 10	VSS 91
A32	VSS 11	VSS 92
A34	VSS 12	VSS 93
AA29	VSS 13	VSS 94
AA30	VSS 14	VSS 95
AA31	VSS 15	VSS 96
AB33	VSS 16	VSS 97
AB34	VSS 17	VSS 98
AB6	VSS 18	VSS 99
AC1	VSS 19	VSS 100
AC12	VSS 20	VSS 101
AC2	VSS 21	VSS 102
AC3	VSS 22	VSS 103
AC37	VSS 23	VSS 104
AC38	VSS 24	VSS 105
AC4	VSS 25	VSS 106
AC5	VSS 26	VSS 107
AC6	VSS 27	VSS 108
AD10	VSS 28	VSS 109
AD11	VSS 29	VSS 110
AD12	VSS 30	VSS 111
AD29	VSS 31	VSS 112
AD30	VSS 32	VSS 113
AD6	VSS 33	VSS 114
AD8	VSS 34	VSS 115
AD9	VSS 35	VSS 116
AE33	VSS 36	VSS 117
AE34	VSS 37	VSS 118
AE6	VSS 38	VSS 119
AF1	VSS 39	VSS 120
AF12	VSS 40	VSS 121
AF13	VSS 41	VSS 122
AF14	VSS 42	VSS 123
AF2	VSS 43	VSS 124
AF3	VSS 44	VSS 125
AF4	VSS 45	VSS 126
AG10	VSS 46	VSS 127
AG11	VSS 47	VSS 128
AG13	VSS 48	VSS 129
AG29	VSS 49	VSS 130
AG30	VSS 50	VSS 131
AG6	VSS 51	VSS 132
AG7	VSS 52	VSS 133
AG8	VSS 53	VSS 134
AH12	VSS 54	VSS 135
AH33	VSS 55	VSS 136
AH34	VSS 56	VSS 137
AH36	VSS 57	VSS 138
AH6	VSS 58	VSS 139
AJ1	VSS 59	VSS 140
AJ13	VSS 60	VSS 141
AJ2	VSS 61	VSS 142
AJ3	VSS 62	VSS 143
AJ37	VSS 63	VSS 144
AJ38	VSS 64	VSS 145
AJ4	VSS 65	VSS 146
AJ5	VSS 66	VSS 147
AJ6	VSS 67	VSS 148
W4	VSS 68	VSS 149
W5	VSS 69	VSS 150
Y10	VSS 70	VSS 151
Y11	VSS 71	VSS 152
Y13	VSS 72	VSS 153
Y14	VSS 73	VSS 154
Y37	VSS 74	VSS 155
Y38	VSS 75	VSS 156
Y7	VSS 76	VSS 157
Y8	VSS 77	VSS 158
Y9	VSS 78	VSS 159
AK29	VSS 79	VSS 160
AK30	VSS 80	VSS 161
AK30	VSS 81	VSS 162

CFL-H\_BGA1440

CFL-H		
UC1G		BJ15
AW5	VSS 163	VSS 244
AY12	VSS 164	VSS 245
AY33	VSS 165	VSS 246
AY34	VSS 166	VSS 247
B9	VSS 167	VSS 248
BA10	VSS 168	VSS 249
BA11	VSS 169	VSS 250
BA12	VSS 170	VSS 251
BA37	VSS 171	VSS 252
BA38	VSS 172	VSS 253
BA6	VSS 173	VSS 254
BA7	VSS 174	VSS 255
BA8	VSS 175	VSS 256
BA9	VSS 176	VSS 257
BB1	VSS 177	VSS 258
BB12	VSS 178	VSS 259
BB2	VSS 179	VSS 260
BB29	VSS 180	VSS 261
BB3	VSS 181	VSS 262
BB30	VSS 182	VSS 263
BB4	VSS 183	VSS 264
BB5	VSS 184	VSS 265
BB6	VSS 185	VSS 266
BC12	VSS 186	VSS 267
BC13	VSS 187	VSS 268
BC14	VSS 188	VSS 269
BC33	VSS 189	VSS 270
BC34	VSS 190	VSS 271
BC6	VSS 191	VSS 272
BD10	VSS 192	VSS 273
BD11	VSS 193	VSS 274
BD12	VSS 194	VSS 275
BD37	VSS 195	VSS 276
BD6	VSS 196	VSS 277
BD7	VSS 197	VSS 278
BD8	VSS 198	VSS 279
BD9	VSS 199	VSS 280
BE	VSS 200	VSS 281
BE29	VSS 201	VSS 282
BE3	VSS 202	VSS 283
BE34	VSS 203	VSS 284
BE4	VSS 204	VSS 285
BE5	VSS 205	VSS 286
BE6	VSS 206	VSS 287
BF12	VSS 207	VSS 288
BF33	VSS 208	VSS 289
BF34	VSS 209	VSS 290
BF6	VSS 210	VSS 291
BG12	VSS 211	VSS 292
BG13	VSS 212	VSS 293
BG14	VSS 213	VSS 294
BG37	VSS 214	VSS 295
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BH10	VSS 218	VSS 299
BH11	VSS 219	VSS 300
BH12	VSS 220	VSS 301
BH14	VSS 221	VSS 302
BH2	VSS 222	VSS 303
BH3	VSS 223	VSS 304
BH4	VSS 224	VSS 305
BH5	VSS 225	VSS 306
BH6	VSS 226	VSS 307
BH7	VSS 227	VSS 308
BH8	VSS 228	VSS 309
BH9	VSS 229	VSS 310
T2	VSS 230	VSS 311
T3	VSS 231	VSS 312
T33	VSS 232	VSS 313
T34	VSS 233	VSS 314
T4	VSS 234	VSS 315
T5	VSS 235	VSS 316
T7	VSS 236	VSS 317
T8	VSS 237	VSS 318
T9	VSS 238	VSS 319
U37	VSS 239	VSS 320
U38	VSS 240	VSS 321
U39	VSS 241	VSS 322
U40	VSS 242	VSS 323
U41	VSS 243	VSS 324

CFL-H\_BGA1440

CFL-H		
UC1H		F15
BN4	VSS 325	VSS 409
BN7	VSS 326	VSS 410
BP12	VSS 327	VSS 411
BP14	VSS 328	VSS 412
BP18	VSS 329	VSS 413
BP21	VSS 330	VSS 414
BP24	VSS 331	VSS 415
BP25	VSS 332	VSS 416
BP26	VSS 333	VSS 417
BP29	VSS 334	VSS 418
BP33	VSS 335	VSS 419
BP34	VSS 336	VSS 420
BP7	VSS 337	VSS 421
BR12	VSS 338	VSS 422
BR14	VSS 339	VSS 423
BR18	VSS 340	VSS 424
BR21	VSS 341	VSS 425
BR24	VSS 342	VSS 426
BR25	VSS 343	VSS 427
BR26	VSS 344	VSS 428
BR29	VSS 345	VSS 429
BR34	VSS 346	VSS 430
BR36	VSS 347	VSS 431
BR7	VSS 348	VSS 432
BT12	VSS 349	VSS 433
BT14	VSS 350	VSS 434
BT18	VSS 351	VSS 435
BT21	VSS 352	VSS 436
BT24	VSS 353	VSS 437
BT26	VSS 354	VSS 438
BT29	VSS 355	VSS 439
BT32	VSS 356	VSS 440
BT5	VSS 357	VSS 441
C11	VSS 358	VSS 442
C13	VSS 359	VSS 443
C15	VSS 360	VSS 444
C17	VSS 361	VSS 445
C19	VSS 362	VSS 446
C21	VSS 363	VSS 447
C23	VSS 364	VSS 448
C25	VSS 365	VSS 449
C27	VSS 366	VSS 450
C29	VSS 367	VSS 451
C31	VSS 368	VSS 452
C37	VSS 369	VSS 453
C5	VSS 370	VSS 454
C8	VSS 371	VSS 455
C9	VSS 372	VSS 456
D10	VSS 373	VSS 457
D12	VSS 374	VSS 458
D14	VSS 375	VSS 459
D16	VSS 376	VSS 460
D18	VSS 377	VSS 461
D20	VSS 378	VSS 462
D22	VSS 379	VSS 463
D24	VSS 380	VSS 464
D25	VSS 381	VSS 465
D28	VSS 382	VSS 466
D3	VSS 383	VSS 467
D30	VSS 384	VSS 468
D33	VSS 385	VSS 469
D6	VSS 386	VSS 470
D9	VSS 387	VSS 471
E34	VSS 388	VSS 472
E35	VSS 389	VSS 473
E38	VSS 390	VSS 474
E4	VSS 391	VSS 475
E9	VSS 392	VSS 476
N3	VSS 393	VSS 477
N33	VSS 394	VSS 478
N34	VSS 395	VSS 479
N4	VSS 396	VSS 480
N5	VSS 397	VSS 481
N6	VSS 398	VSS 482
N7	VSS 399	VSS 483
N8	VSS 400	VSS 484
N9	VSS 401	VSS 485
P12	VSS 402	VSS 486
P11	VSS 403	VSS 487
P37	VSS 404	VSS 488
M12	VSS 405	VSS 489
M6	VSS 406	VSS 490
N1	VSS 407	VSS 491
F11	VSS 408	VSS 492
F13	VSS 409	VSS 493

CFL-H\_BGA1440

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Title  
CFL-H (8/8)

Size Document Number  
A LA-H171P

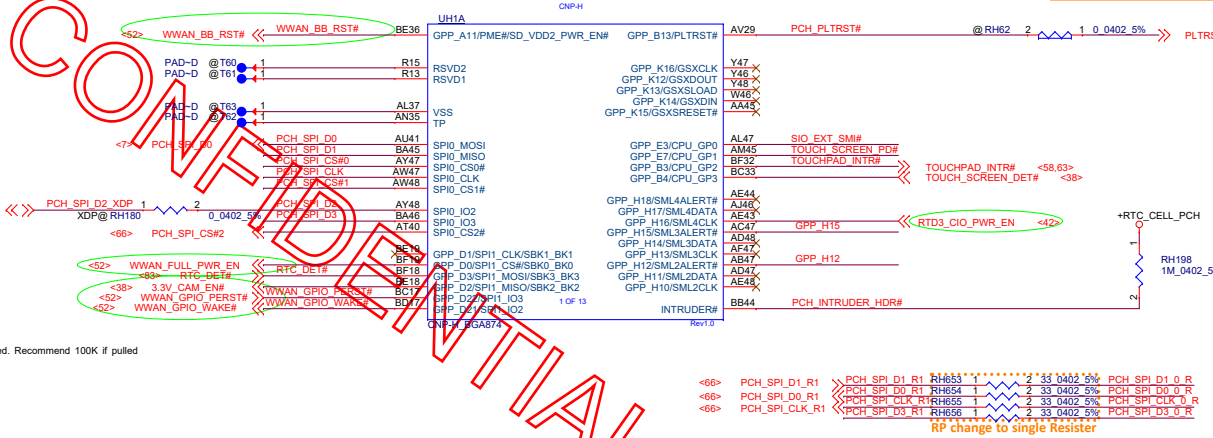
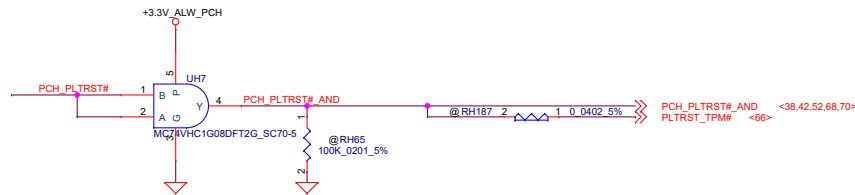
Date: Friday, March 08, 2019 Sheet 13 of 100

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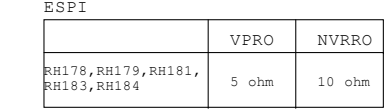




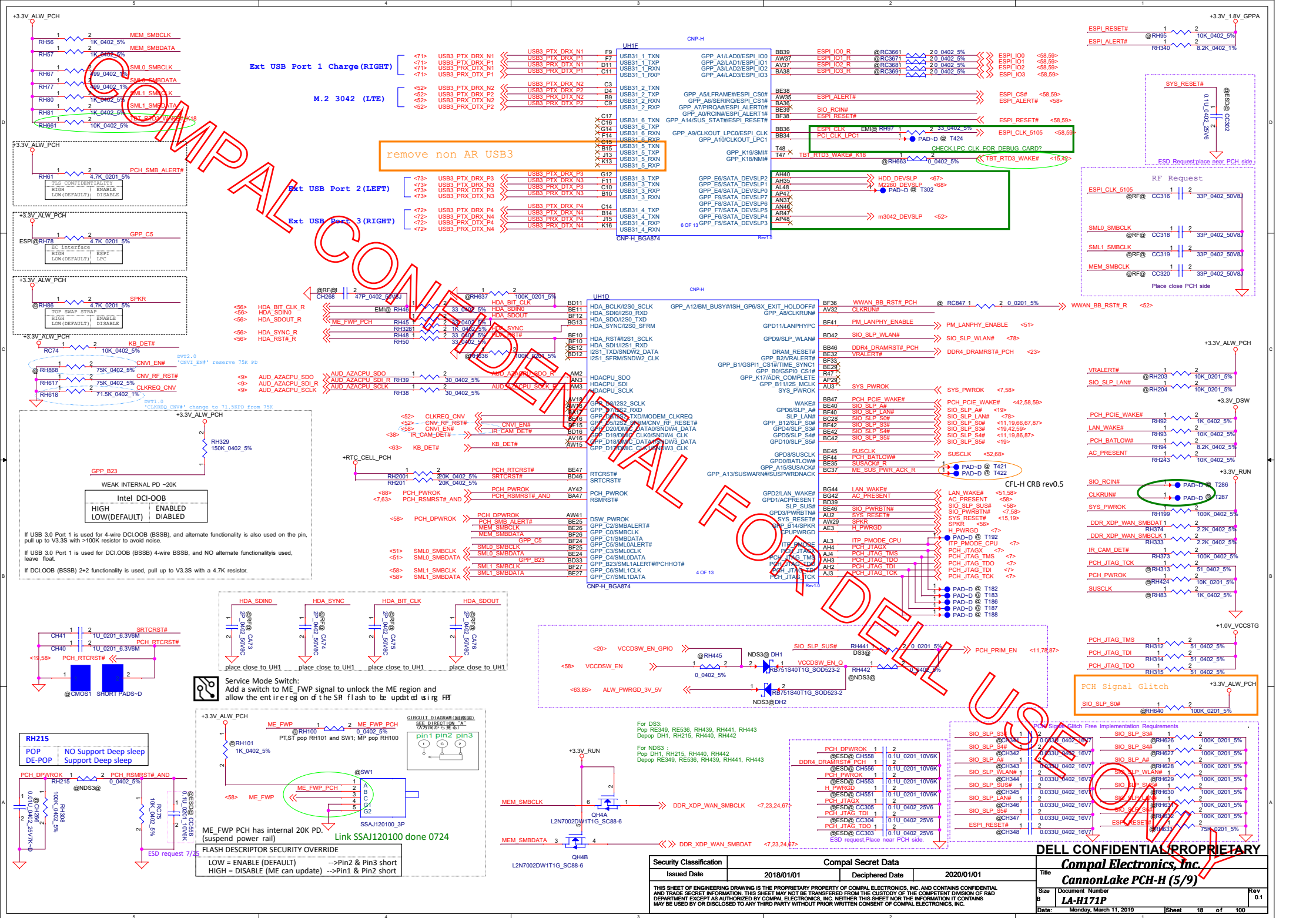


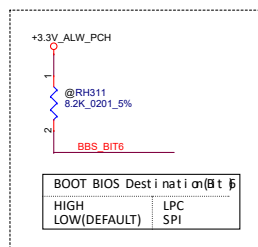
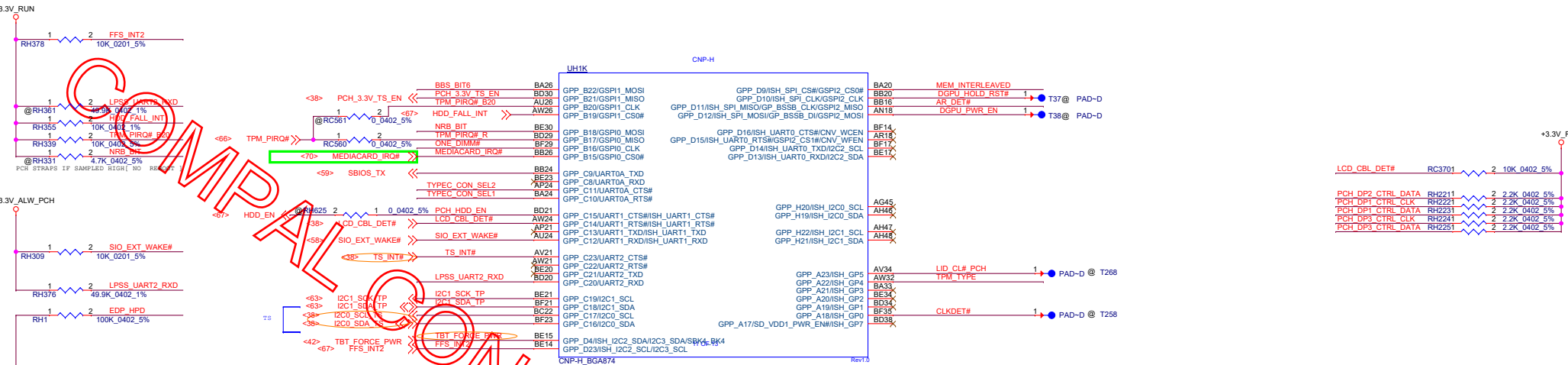
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NVPRO@RH657	NVPRO@RH658	NVPRO@RH659	NVPRO@RH660
1	1	1	1
2	2	2	2
33	33	33	33
0402	0402	0402	0402
5%	5%	5%	5%

RF change to single Resistor

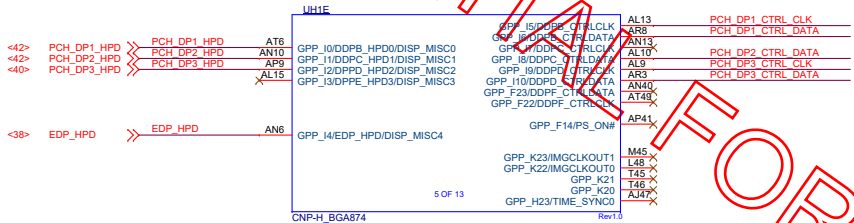


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		2	





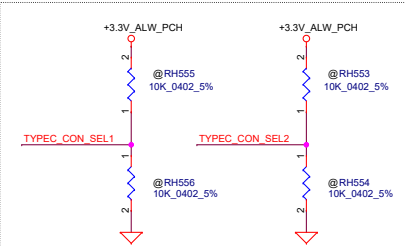
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HIGH	LPC
LOW(DEFAULT)	SPI



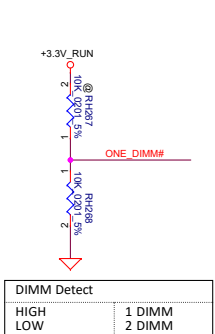
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<42>	PCH_DP2_HPD	PCH_DP2_HPD	AN10
<40>	PCH_DP3_HPD	PCH_DP3_HPD	AP9

<38>	EDP_HPD	EDP_HPD	AN6
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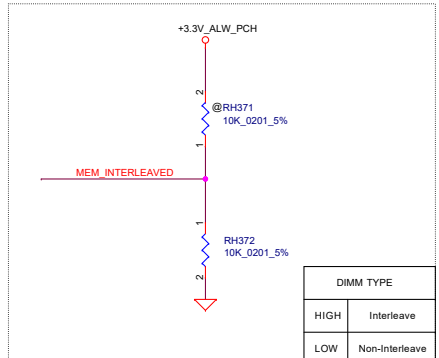
DIMM TYPE	
HIGH	Interleave
LOW	Non-Interleave



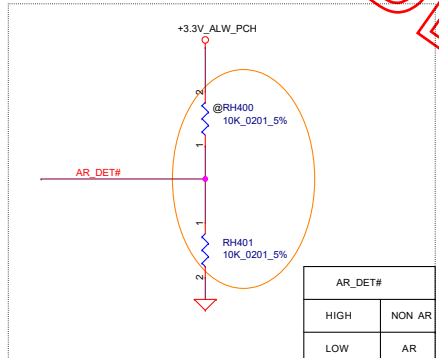
Vendor	JAE	FOXCON	TBD	TBD
TYPECON_SEL1	LOW	LOW	HIGH	HIGH
TYPECON_SEL2	LOW	HIGH	LOW	HIGH



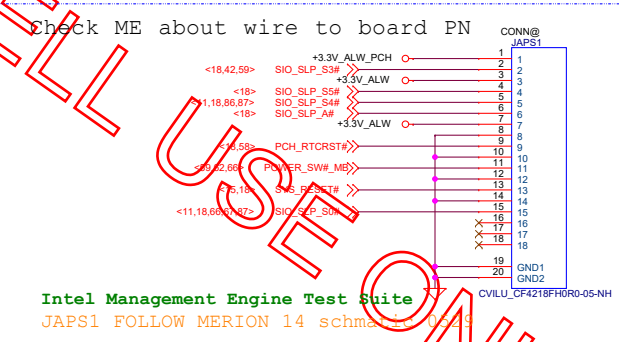
DIMM Detect	
HIGH	1 DIMM
LOW	2 DIMM



DIMM TYPE	
HIGH	Interleave
LOW	Non-Interleave



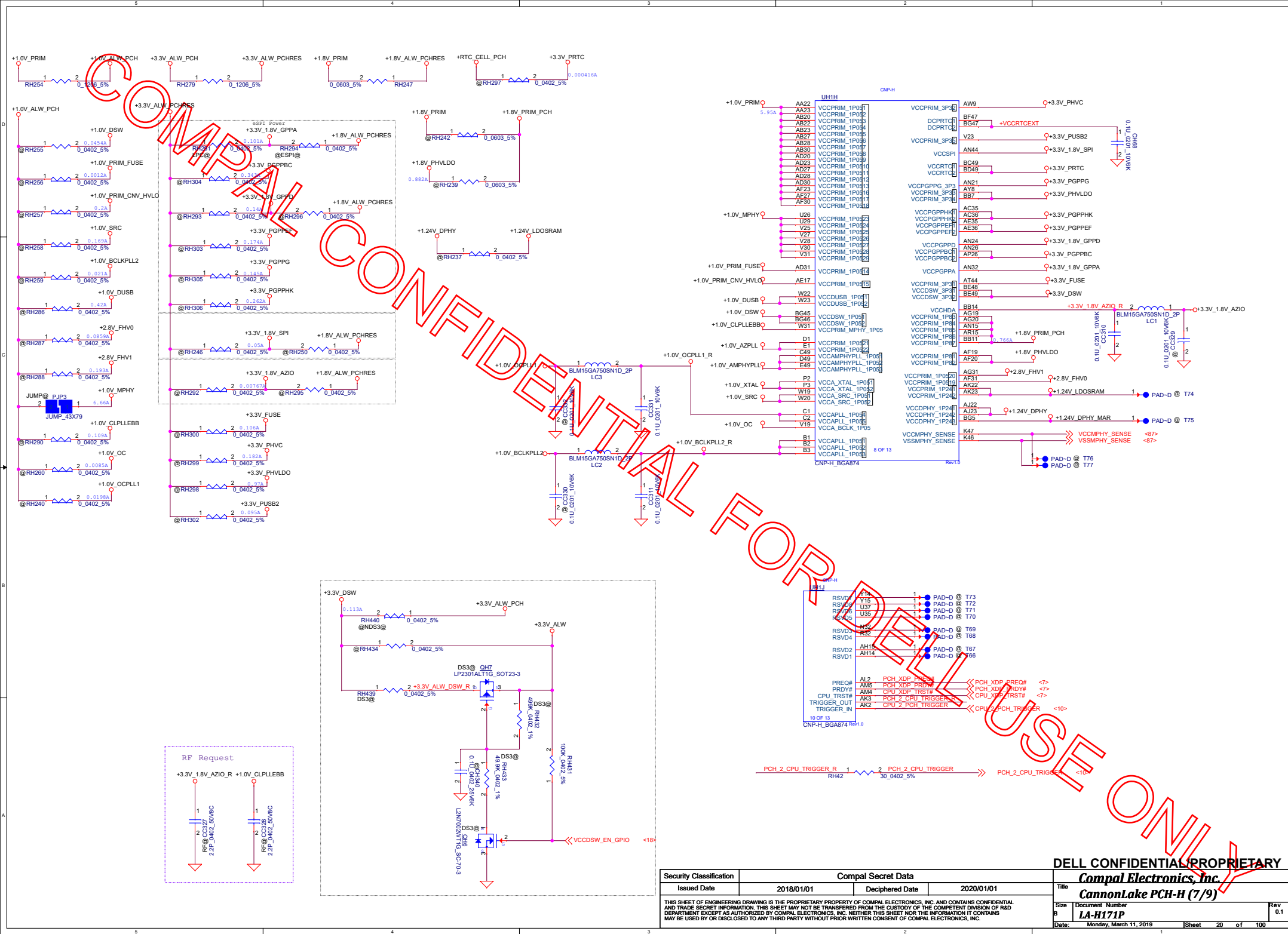
AR_DET#	
HIGH	NON AR
LOW	AR



Intel Management Engine Test Suite  
JAPS1 FOLLOW MERION 14 schma 0528

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CanonLake PCH-H (6/9)

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				<b>CannonLake PCH-H (7/9)</b>	
Size		Document Number		Rev	
B		LA-H171P		0.1	
Date:		Monday, March 11, 2019		Sheet	20 of 100



COMPAL

CNP-H			
UH1L		AL12	
A2	VSS_1	VSS_73	AL17
A28	VSS_2	VSS_74	AL21
A3	VSS_3	VSS_75	AL24
A33	VSS_4	VSS_76	AL26
A37	VSS_5	VSS_77	AL28
A4	VSS_6	VSS_78	AL33
A45	VSS_7	VSS_79	AL38
A48	VSS_8	VSS_80	AM1
A49	VSS_9	VSS_81	AM18
A5	VSS_10	VSS_82	AM32
A55	VSS_11	VSS_83	AM40
AA10	VSS_12	VSS_84	AN12
AA20	VSS_13	VSS_85	AN16
AA25	VSS_14	VSS_86	AN32
AA27	VSS_15	VSS_87	AN38
AA28	VSS_16	VSS_88	AP4
AA30	VSS_17	VSS_89	AP9
AA31	VSS_18	VSS_90	AR32
AA49	VSS_19	VSS_91	AR10
AA5	VSS_20	VSS_92	AS4
AB19	VSS_21	VSS_93	AS8
AB25	VSS_22	VSS_94	AT1
AB31	VSS_23	VSS_95	AT16
AC12	VSS_24	VSS_96	AT18
AC17	VSS_25	VSS_97	AT21
AC33	VSS_26	VSS_98	AT24
AC38	VSS_27	VSS_99	AT26
AD1	VSS_28	VSS_100	AT28
AD19	VSS_29	VSS_101	AT32
AD2	VSS_30	VSS_102	AT34
AD22	VSS_31	VSS_103	AT45
AD25	VSS_32	VSS_104	AV11
AD26	VSS_33	VSS_105	AV39
AD49	VSS_34	VSS_106	AW10
AE12	VSS_35	VSS_107	AW4
AE33	VSS_36	VSS_108	AW40
AE38	VSS_37	VSS_109	AW45
AE4	VSS_38	VSS_110	B47
AE46	VSS_39	VSS_111	B48
AF22	VSS_40	VSS_112	B49
AF25	VSS_41	VSS_113	BA12
AF28	VSS_42	VSS_114	BA14
AG1	VSS_43	VSS_115	BA44
AG22	VSS_44	VSS_116	BA5
AG23	VSS_45	VSS_117	BA6
AG25	VSS_46	VSS_118	BB41
AG27	VSS_47	VSS_119	BB43
AG28	VSS_48	VSS_120	BB9
AG30	VSS_49	VSS_121	BC10
AG49	VSS_50	VSS_122	BC15
AH12	VSS_51	VSS_123	BC15
AH17	VSS_52	VSS_124	BC19
AH33	VSS_53	VSS_125	BC24
AH38	VSS_54	VSS_126	BC26
AJ19	VSS_55	VSS_127	BC31
AJ20	VSS_56	VSS_128	BC35
AJ25	VSS_57	VSS_129	BC40
AJ27	VSS_58	VSS_130	BC45
AJ28	VSS_59	VSS_131	BC6
AJ30	VSS_60	VSS_132	BD43
AJ31	VSS_61	VSS_133	BE44
AK19	VSS_62	VSS_134	BF1
AK20	VSS_63	VSS_135	BF2
AK25	VSS_64	VSS_136	BF3
AK27	VSS_65	VSS_137	BF48
AK28	VSS_66	VSS_138	BF49
AK30	VSS_67	VSS_139	BG17
AK31	VSS_68	VSS_140	BG2
AK4	VSS_69	VSS_141	BG22
AK45	VSS_70	VSS_142	BG25
AK46	VSS_71	VSS_143	BG28
	VSS_72	VSS_144	

CNP-H

UH1L

AL12

AL17

AL21

AL24

AL26

AL28

AL33

AL38

AM1

AM18

AM32

AM40

AN12

AN16

AN32

AN38

AP4

AP9

AR32

AR10

AS4

AS8

AT1

AT16

AT18

AT21

AT24

AT26

AT28

AT32

AT34

AT45

AV11

AV39

AW10

AW4

AW40

AW45

B47

B48

B49

BA12

BA14

BA44

BA5

BA6

BB41

BB43

BB9

BC10

BC15

BC15

BC19

BC24

BC26

BC31

BC35

BC40

BC45

BC6

BD43

BE44

BF1

BF2

BF3

BF48

BF49

BG17

BG2

BG22

BG25

BG28

CNP-H			
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BG3	VSS_145	VSS_196	M32
BG33	VSS_146	VSS_197	M34
BG37	VSS_147	VSS_198	M49
BG4	VSS_148	VSS_199	M5
BG46	VSS_149	VSS_200	N12
C12	VSS_150	VSS_201	N16
C25	VSS_151	VSS_202	N34
C30	VSS_152	VSS_203	N35
C4	VSS_153	VSS_204	N37
C48	VSS_154	VSS_205	N38
C5	VSS_155	VSS_206	P26
D12	VSS_156	VSS_207	P29
D16	VSS_157	VSS_208	P4
D17	VSS_158	VSS_209	P46
D30	VSS_159	VSS_210	R12
D33	VSS_160	VSS_211	R16
D6	VSS_161	VSS_212	R26
E10	VSS_162	VSS_213	R29
E13	VSS_163	VSS_214	R3
E15	VSS_164	VSS_215	R34
E17	VSS_165	VSS_216	R38
E19	VSS_166	VSS_217	R4
E22	VSS_167	VSS_218	T17
E24	VSS_168	VSS_219	T18
E26	VSS_169	VSS_220	T4
E31	VSS_170	VSS_221	T32
E33	VSS_171	VSS_222	T4
E35	VSS_172	VSS_223	T49
E40	VSS_173	VSS_224	T5
E42	VSS_174	VSS_225	T7
E8	VSS_175	VSS_226	U12
F41	VSS_176	VSS_227	U15
F43	VSS_177	VSS_228	U17
F47	VSS_178	VSS_229	U21
G44	VSS_179	VSS_230	U24
G6	VSS_180	VSS_231	U33
H8	VSS_181	VSS_232	U38
J10	VSS_182	VSS_233	V20
J26	VSS_183	VSS_234	V22
J29	VSS_184	VSS_235	V4
J4	VSS_185	VSS_236	V46
J40	VSS_186	VSS_237	W25
J46	VSS_187	VSS_238	W27
J47	VSS_188	VSS_239	W28
J48	VSS_189	VSS_240	W30
J9	VSS_190	VSS_241	Y10
K11	VSS_191	VSS_242	Y12
K39	VSS_192	VSS_243	Y17
M16	VSS_193	VSS_244	Y33
M18	VSS_194	VSS_245	Y38
M21	VSS_195	VSS_246	Y9

CNP-H

UH1L

M24

M32

M34

M49

M5

N12

N16

N34

N35

N37

N38

P26

P29

P4

P46

R12

R16

R26

R29

R3

R34

R38

R4

T17

T18

T4

T32

T4

T49

T5

T7

U12

U15

U17

U21

U24

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W27

W28

W30

Y10

Y12

Y17

Y33

Y38

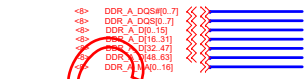
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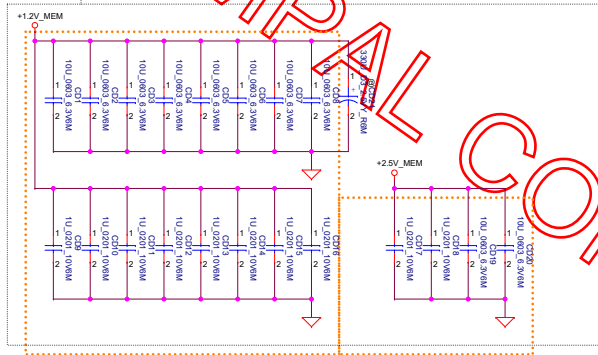
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CannonLake PCH-H (9/9)

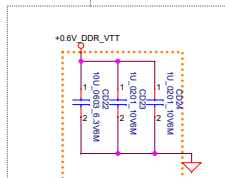
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Size		Document Number		Rev	
		LA-H171P		0.1	
Date:		Friday, March 08, 2019		Sheet 22 of 100	



Layout Note:  
Place near JDIMM1



Layout Note:  
Place near JDIMM1.258

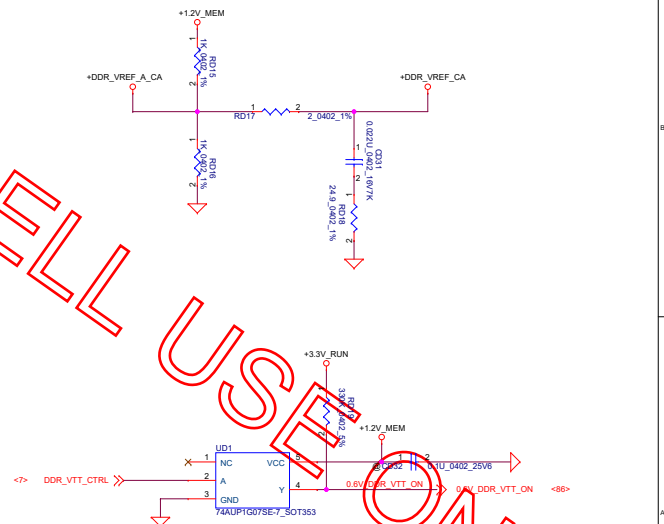
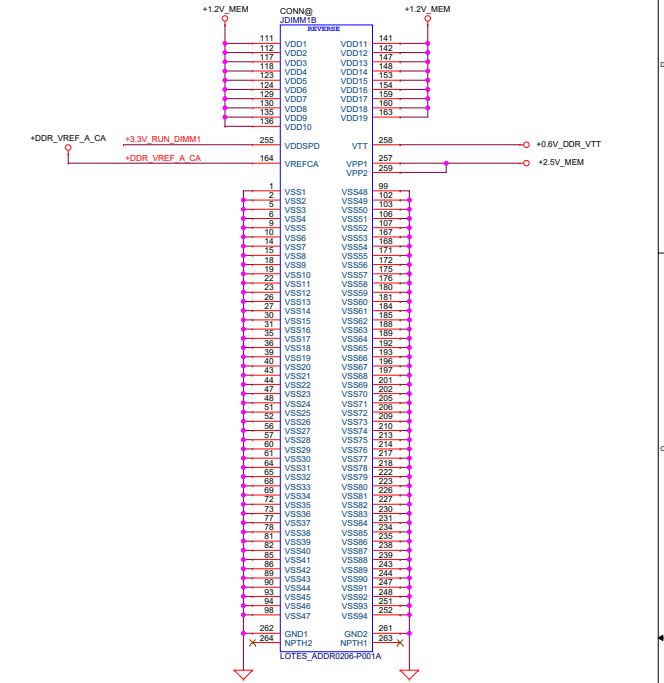
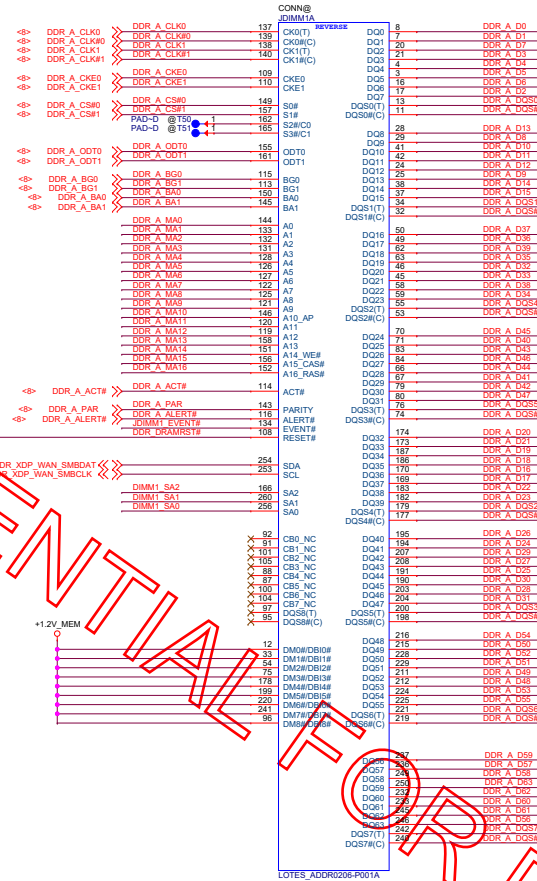


FOLLOW PDG V1P8 P.136  
VDDQ 16x 10u F (8603)  
VDDQ 16x 1u F (8402), INTEL reply can downsize to 0201  
VPP 2x 10u F (8603)  
VPP 2x 1u F (8402), INTEL reply can downsize to 0201

### DIMM Select

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DIMM2	1	0	0
DIMM3	0	1	0
DIMM4	1	1	0

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Byte[1]	DQ[15:8]	DQS/DQS#[1]
Byte[2]	DQ[23:16]	DQS/DQS#[2]
* Byte[3]	DQ[31:24]	DQS/DQS#[3]
Byte[4]	DQ[39:32]	DQS/DQS#[4]
Byte[5]	DQ[47:40]	DQS/DQS#[5]
* Byte[6]	DQ[55:48]	DQS/DQS#[6]
Byte[7]	DQ[63:56]	DQS/DQS#[7]



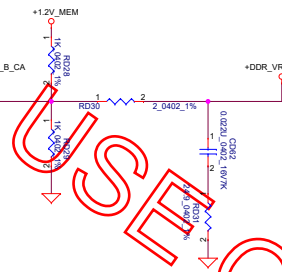
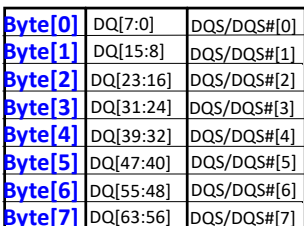
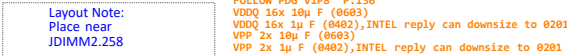
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NOTES ADDR0206-P001A

Figure 1 is a line graph showing the number of cases of COVID-19 in the United States from March 2020 to March 2021. The x-axis represents time in months, and the y-axis represents the number of cases. The graph shows a sharp increase in cases starting in March 2020, peaking in May 2020, and then declining. A dashed line indicates the trend, and a solid line shows the actual data. The data points are labeled with the number of cases.



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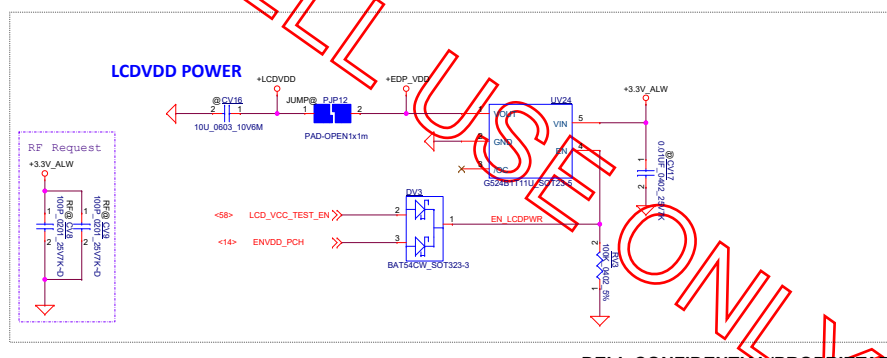
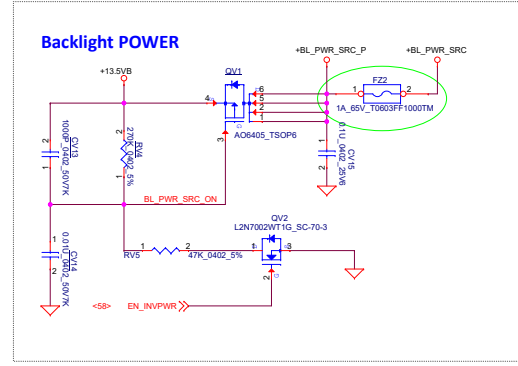
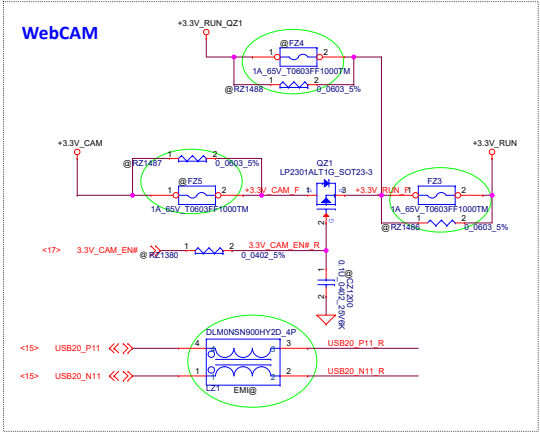
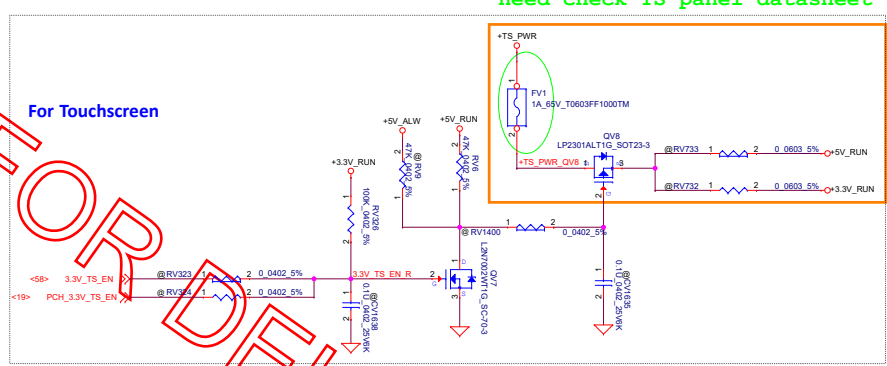
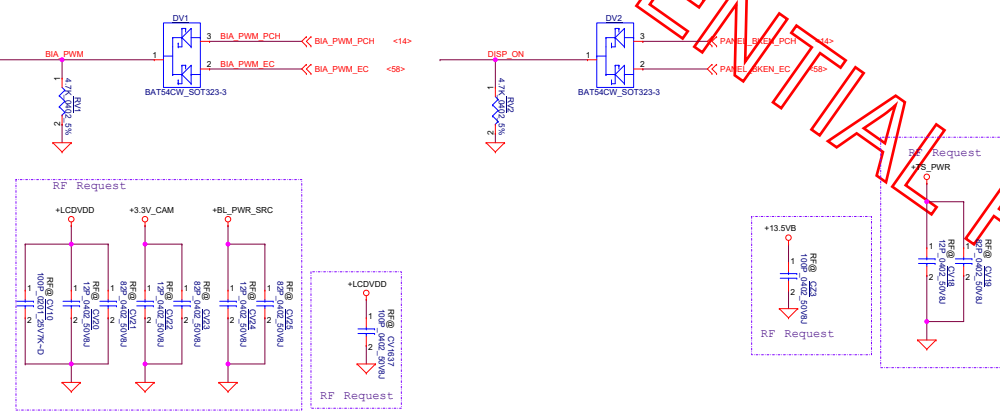
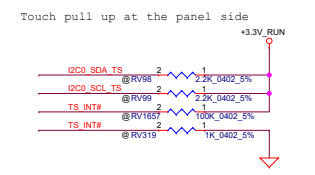
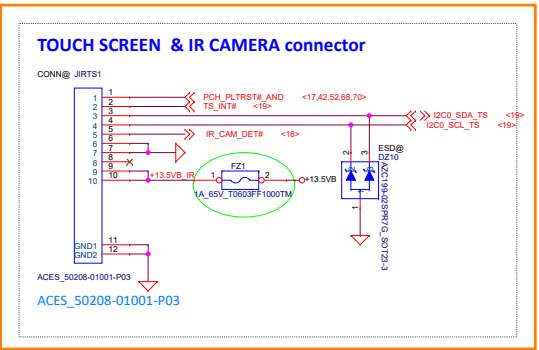
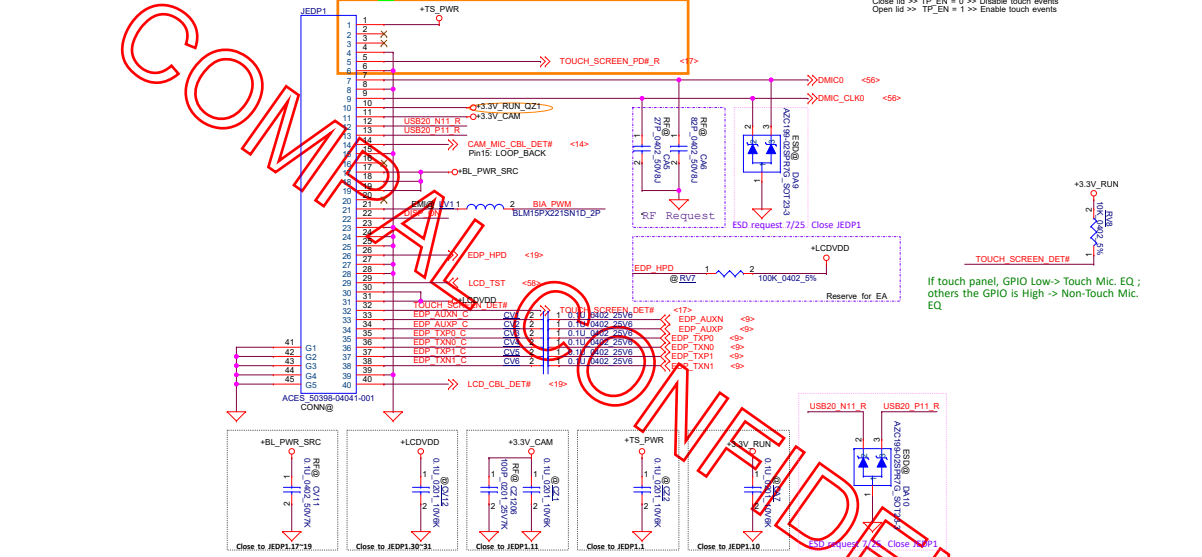
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BH JEDP1,JIRTS1 PINDEFINE FOLLOW NB  
SCHMATIC FOLLOW NB15UD 180605



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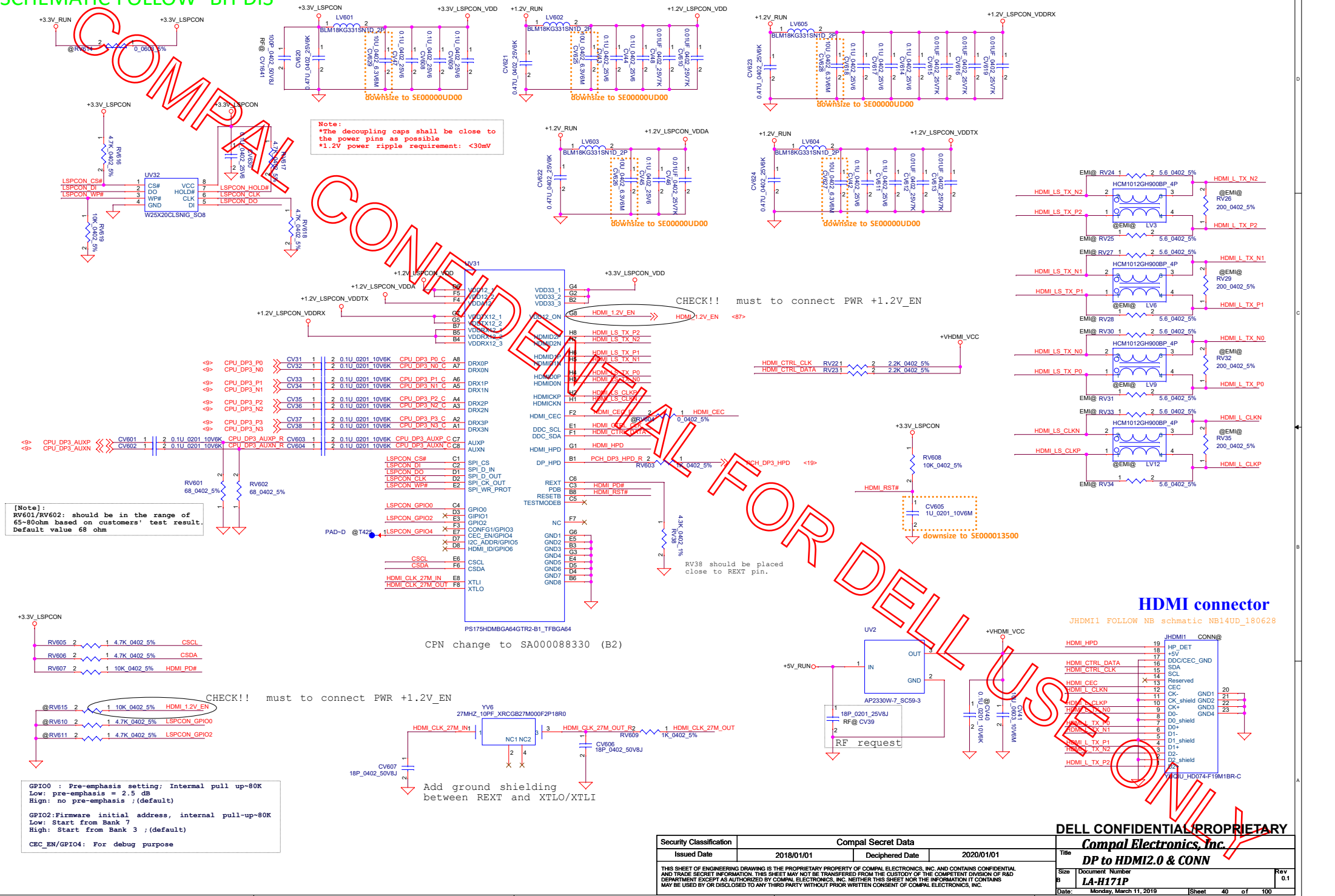


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BH UMA support HDMI2.0  
SCHEMATIC FOLLOW BH DIS

LV601~LV605 link SM01000KR00 OK - 2017/03/16



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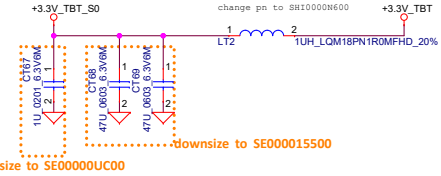


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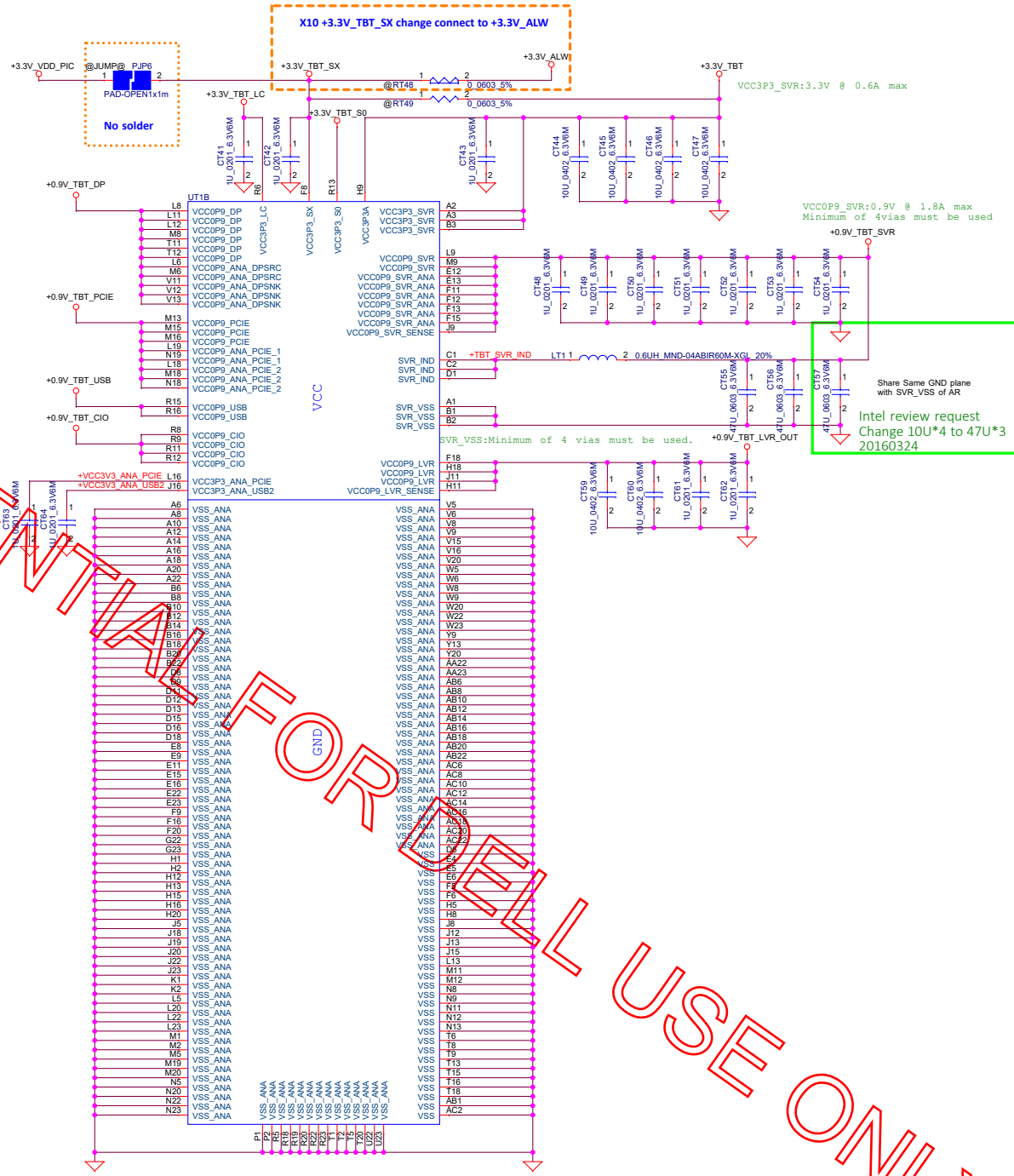
TBT Power circuit



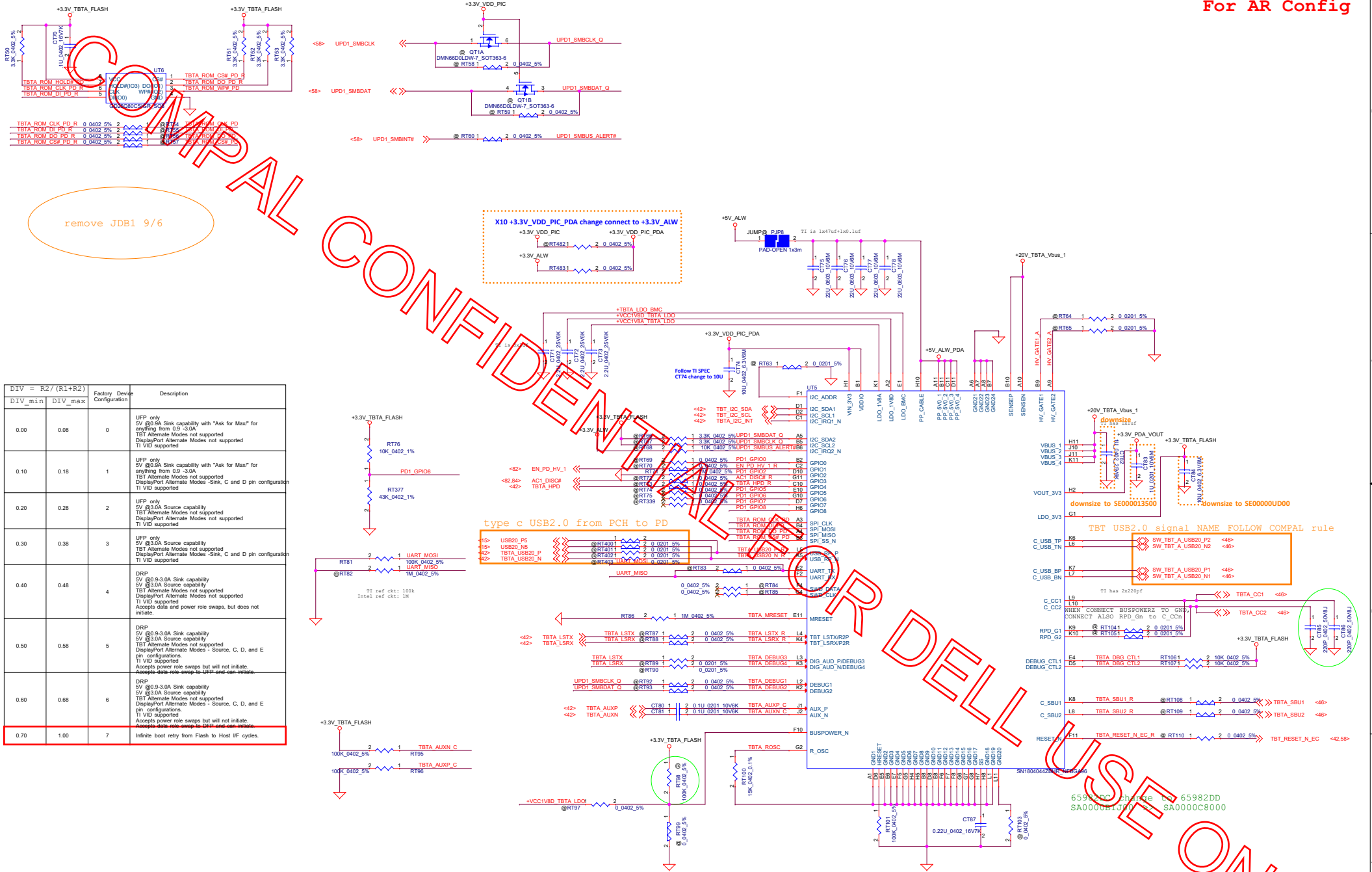
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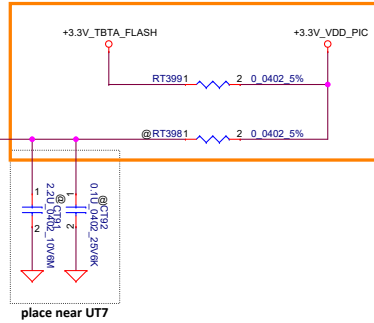
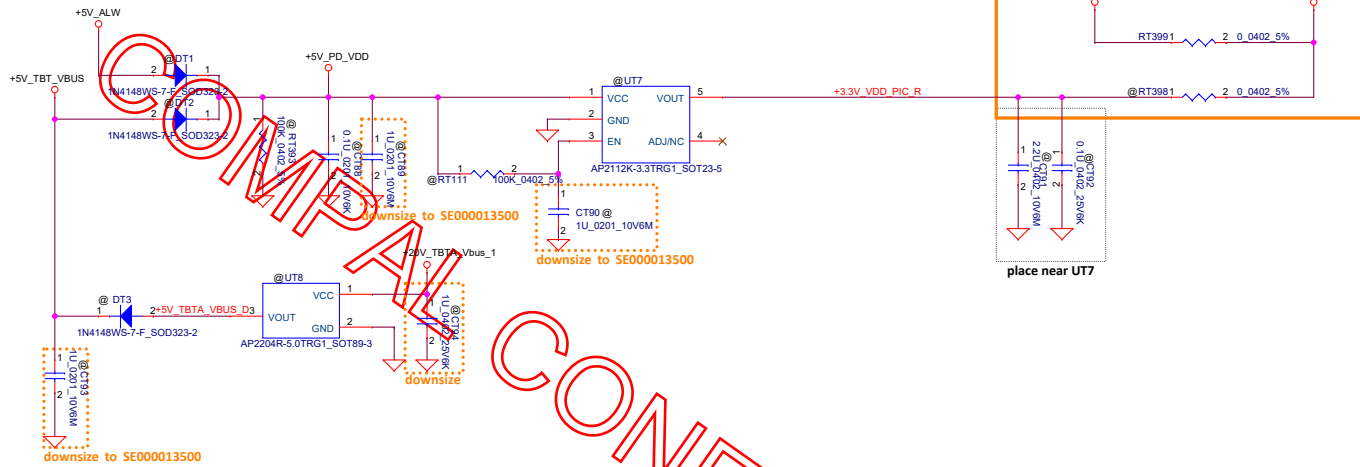
- Design power plane supports maximum current requirement

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1.05A	0.19A	0.03A	0.1A	0.1A	
VCC0V9_SVR	VCC0V9_LVR_OUT	VCC0V9_DP	VCC0V9_PCIE	VCC0V9_USB	VCC0V9_CIO
1.83A	0.06A	0.7A	0.58A	0.22A	0.28A



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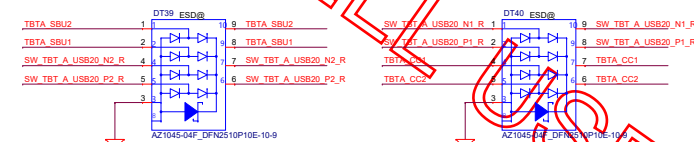
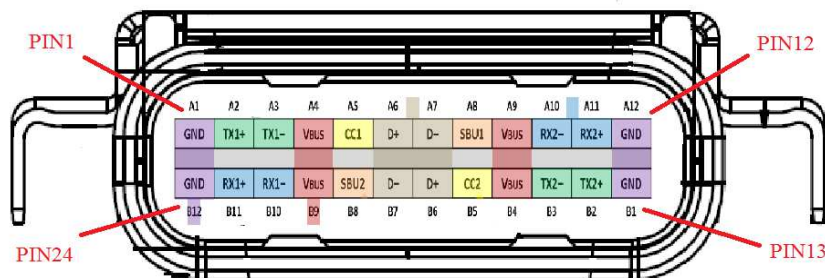
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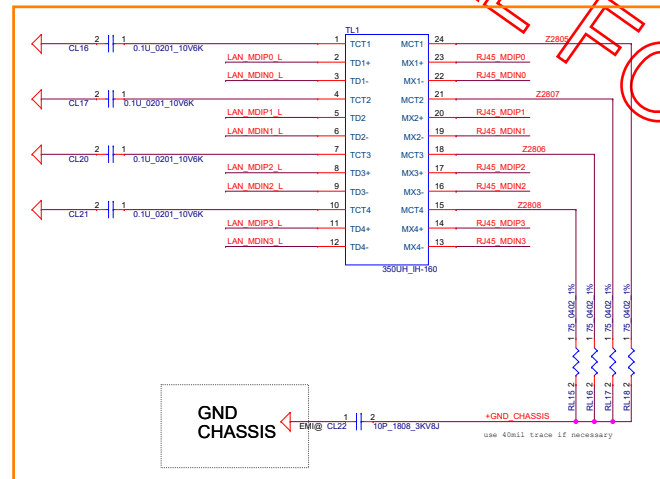
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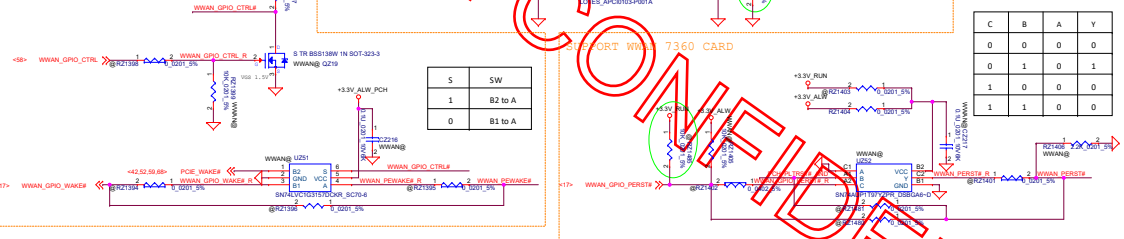
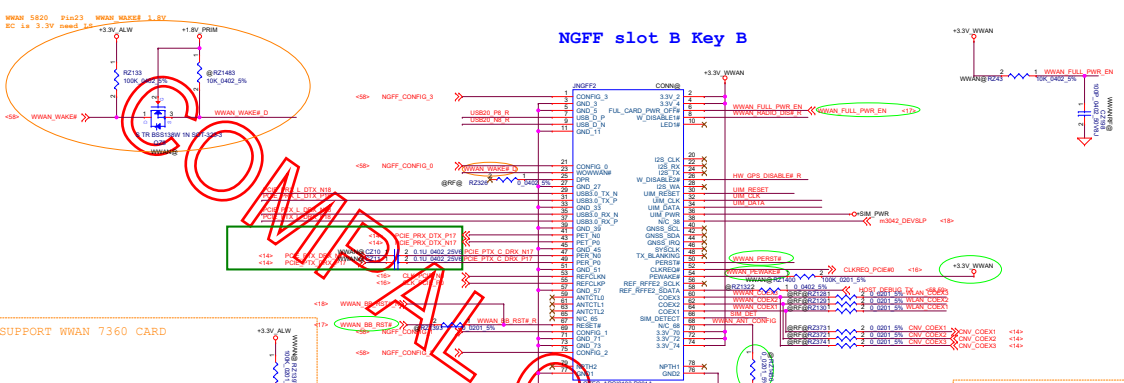
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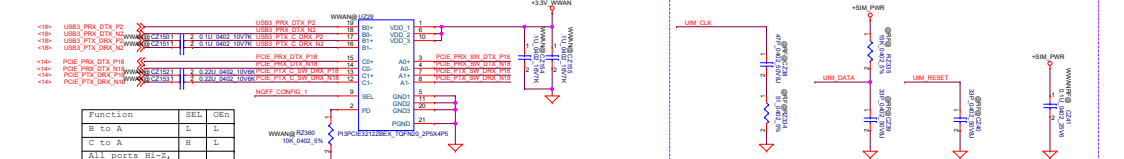
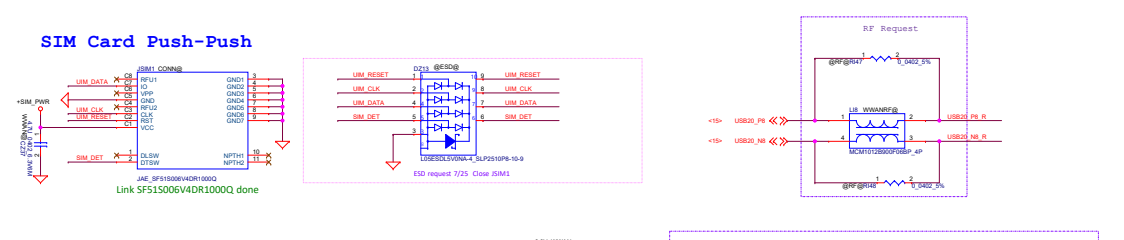


JLSM1 FOLLOW NB14UD\_180615 SCHMATIC

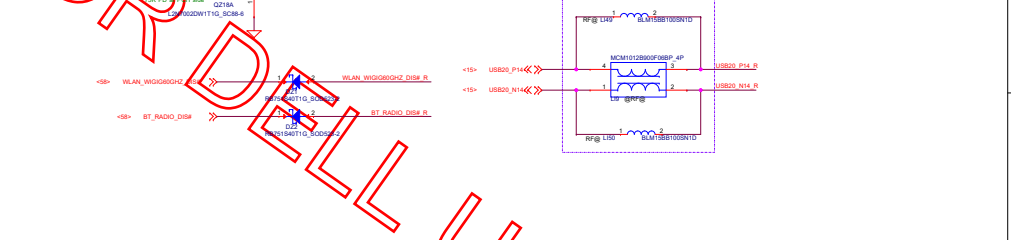
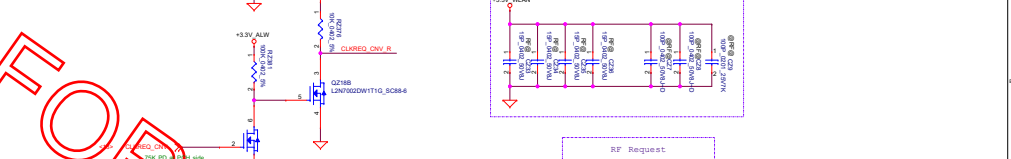
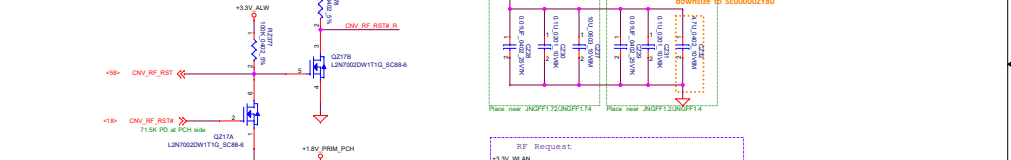
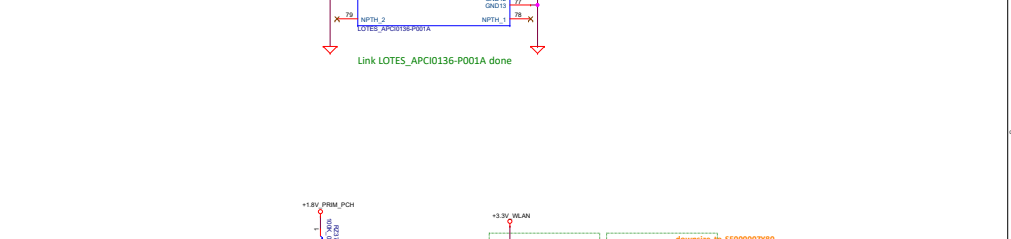
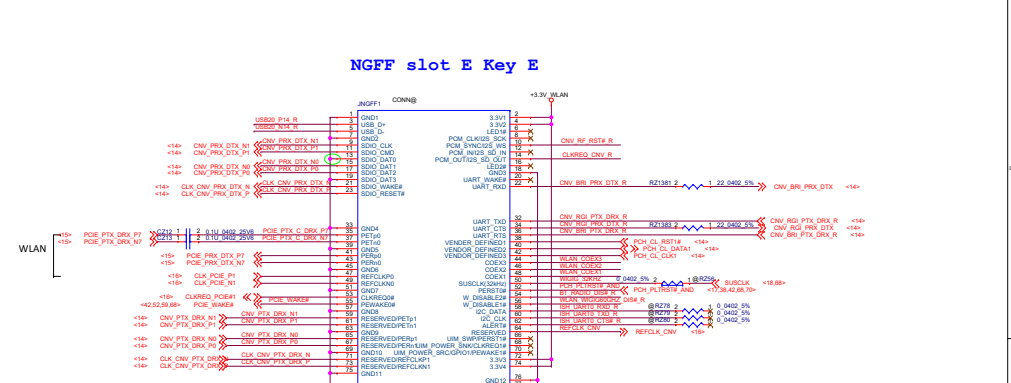
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			LA-H172P	
			Date:	Tuesday, March 12, 2019 <span style="float: right;">ISheet 51 of 100</span>



STATE #	CONFIG_0 (PNC1)	CONFIG_1 (PNC2)	CONFIG_2 (PNC3)	CONFIG_3 (PNC4)	Module Type	m3042 PCIE# SATA
0	GND	GND (PEDET PD)	GND	GND (PEDET PD)	SSD-SATA	High
1	GND	GND (PEDET NC)	GND	GND	SSD-PCIE(2 lane)	Low
8	GND	GND (device PD)	HIGH (device NC)	HIGH (device NC)	WWAN	Low
	GND (device PD)	GND (device PD)	GND (device NC)	HIGH (device NC)	WWAN	Low
15	EC (MB PU)	EC (MB PU)	EC (MB PU)	EC (MB PU)	NA	Low



Function	SEL	GEN
RF to A	L	I
IC to A	H	I
All ports Hi-Z, IC power down	X	H



Function	SEL	GEN
RF to A	L	I
IC to A	H	I
All ports Hi-Z, IC power down	X	H

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Reserve for PCIE device		
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Date: Friday, March 08, 2019		
Sheet	55	of 100

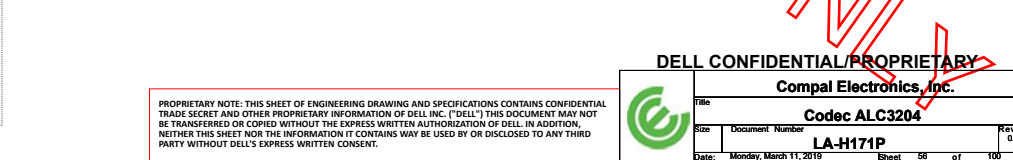
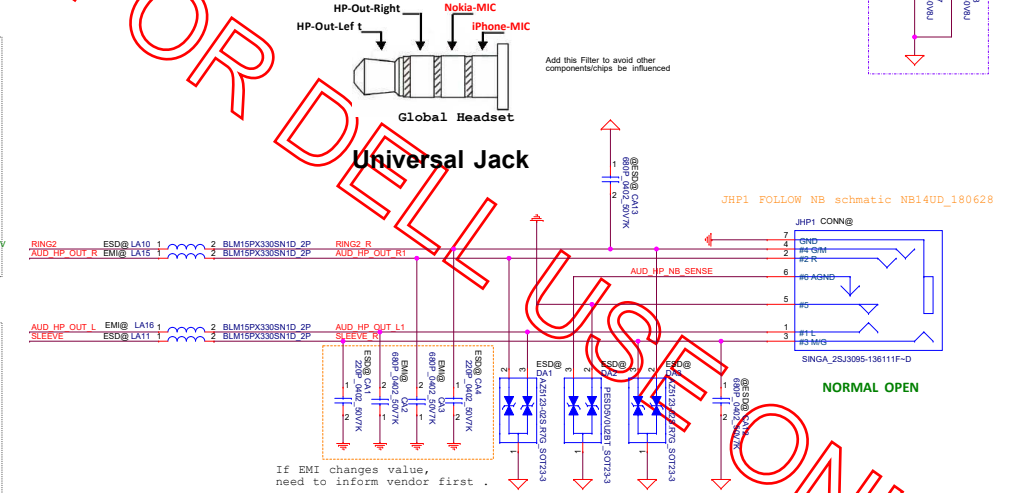
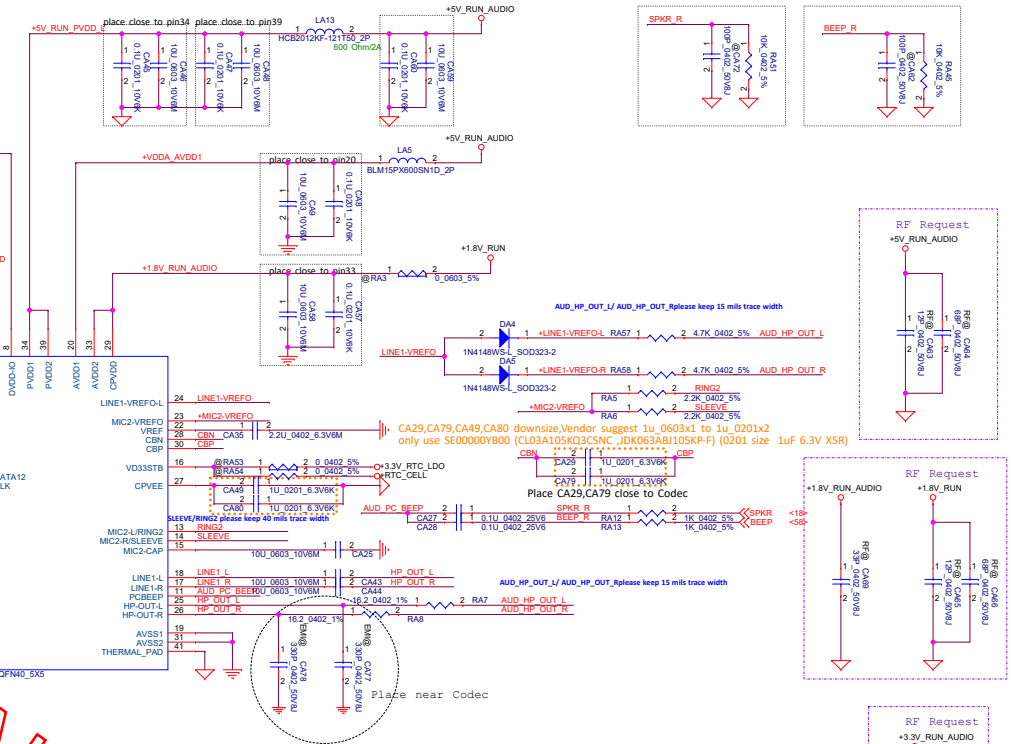
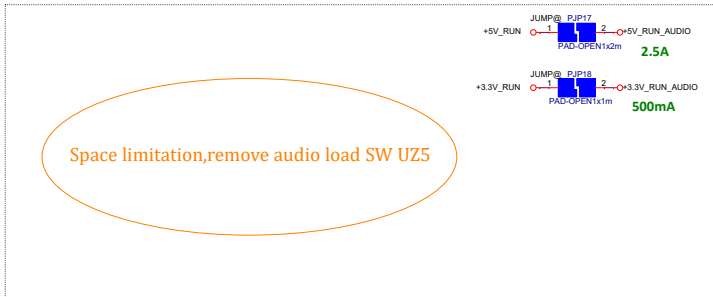
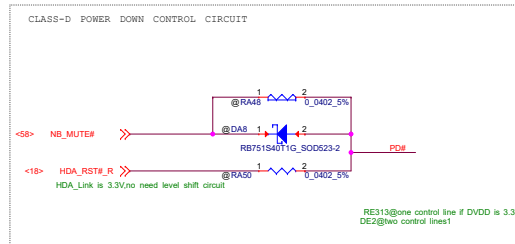
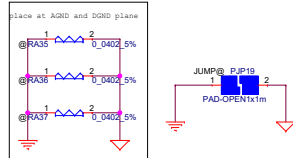
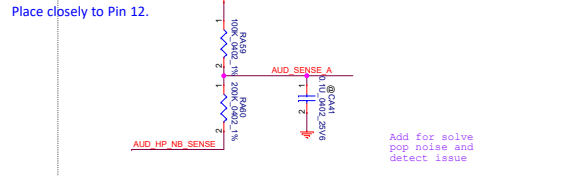
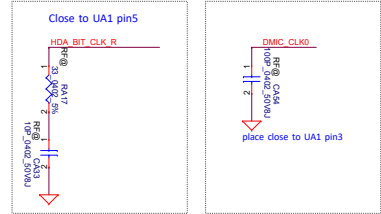
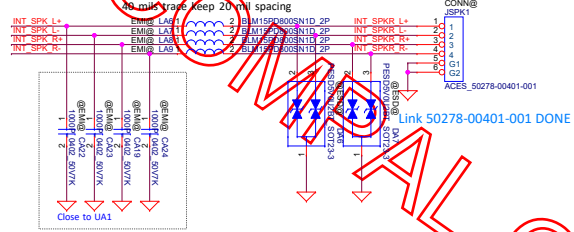
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# BH audio codec SUPPORT ALC3204

## SCHMATIC FOLLOW NB15UD\_180605

1W x 1ch, 4ohm (Transducer spec is 0.5Watt per unit, there are two transducer units in one speaker box.)

### Internal Speakers Header

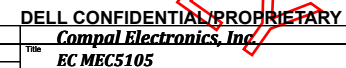


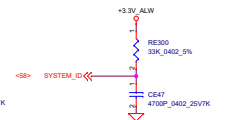
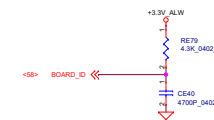
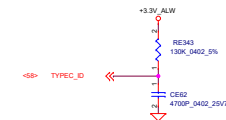
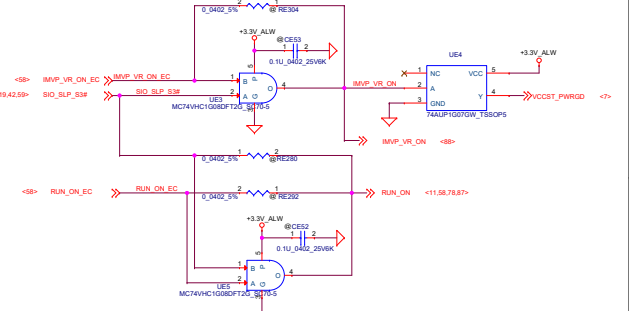
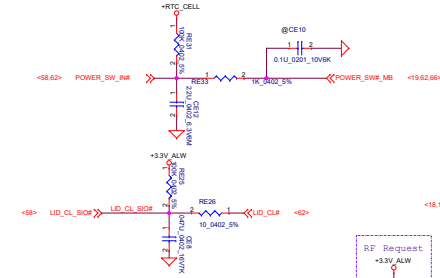
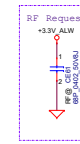
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Title			
Audio Ampfilter			
Size	Document Number		Rev
	LA-H171P		0.1
Date:	Friday, March 08, 2019		Sheet 57 of 100



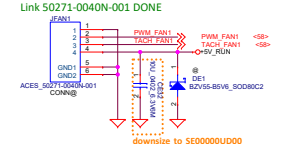
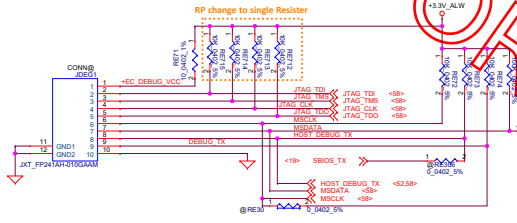
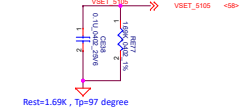


	RE343	CE62	REV
*	240K	4700p	Single Port ACE w/o AR
	130K	4700p	Single Port ACE w/AR
	62K	4700p	Dual Port ACE w/o AR
	33K	4700p	Dual Port ACE w/AR
	8.2K	4700p	Dual Port ACE (w/AR +w/o AR)
	4.3K	4700p	.
	2K	4700p	
	1K	4700p	

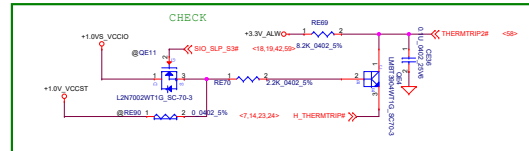
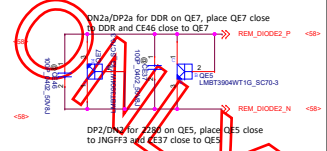
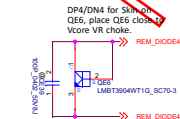
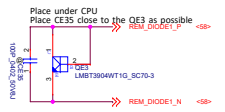
	RE79	CE40	REV
	240K	4700p	X00
	130K	4700p	X01
	62K	4700p	X02
	33K	4700p	X03
	8.2K	4700p	
*	4.3K	4700p	A00
	2K	4700p	
	1K	4700p	

RE300	CE47	PANEL SIZE
240K	4700p	11"
130K	4700p	12"
62K	4700p	13"
33K	4700p	14"
8.2K	4700p	BR15 H
4.3K	4700p	17"
2K	4700p	BR15 P
1K	4700p	

PANEL\_ID rise t i n e l s m e a s u r e d f r o m 5 % ~ 68 %



5105 Channel	Location
DP1/DN1	CPU (QE3)
DP2/DN2	2280 (QE5)
DN2a/DR2a	DOR (QE7)
DP3/DN3	NA
DP4/DN4	CPU VR (QE6)



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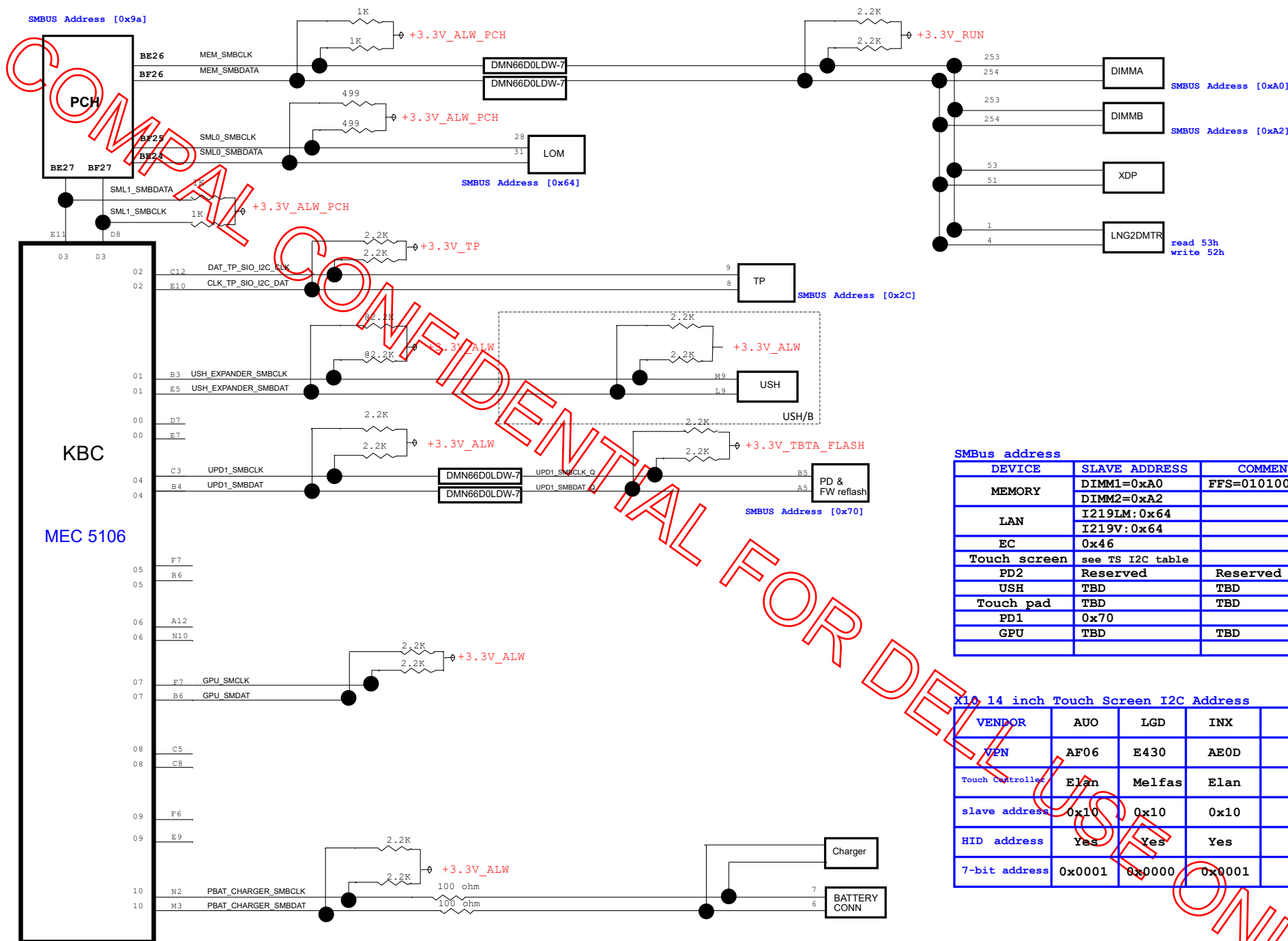
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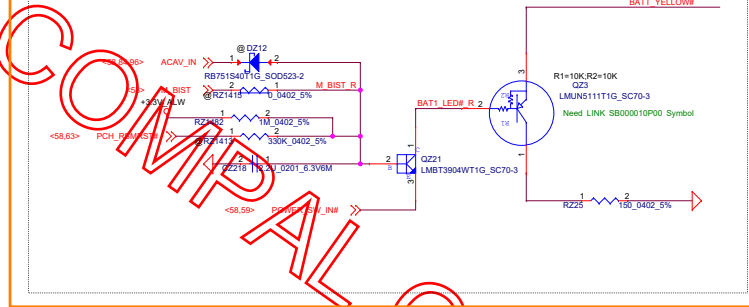
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Title			
Secure & Reset IC			
Size	Document Number		Rev
	LA-H171P		0.1
Date:	Friday, March 08, 2019	Sheet 60 of 100	

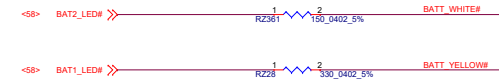
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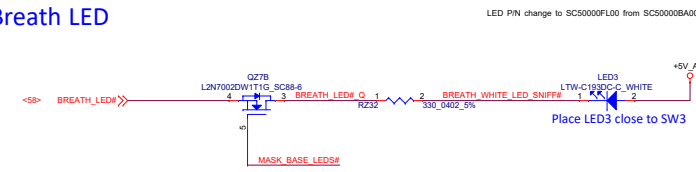
## M BIST



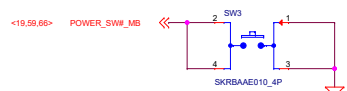
## Bat tery LED



## Breath LED



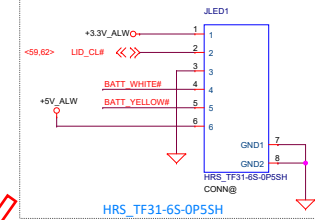
## POWER & INSTANT ON SWITCH



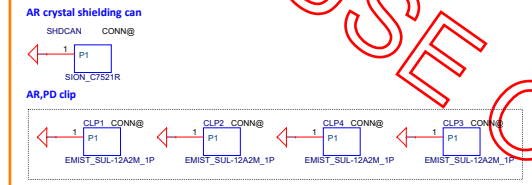
LED Circuit Control Table		
	SYS_LED_MASK#	LID_CL#
Mask All LEDs (Unobtrusive mode)	0	X
Mask Base MB LEDs (Lid Closed)	1	0
Do not Mask LEDs (Lid Opened)	1	1

FOLLOW NB schematic NB14UD\_180605

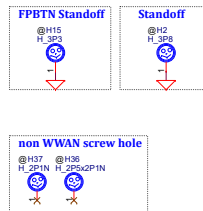
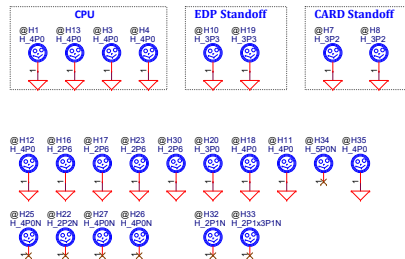
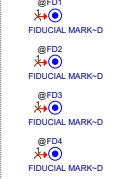
## LED board CONN



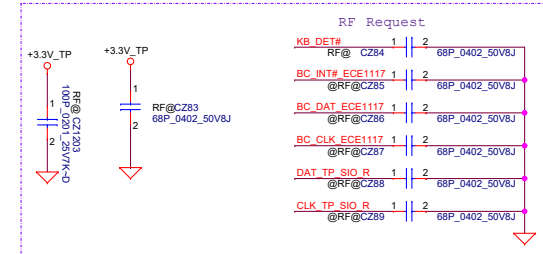
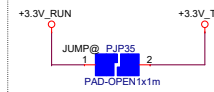
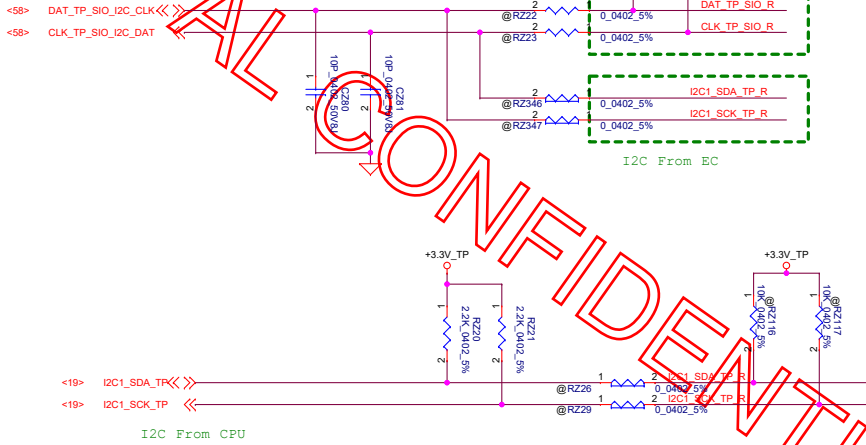
FOLLOW NB schematic NB15UD\_180605



## Fiducial Mark

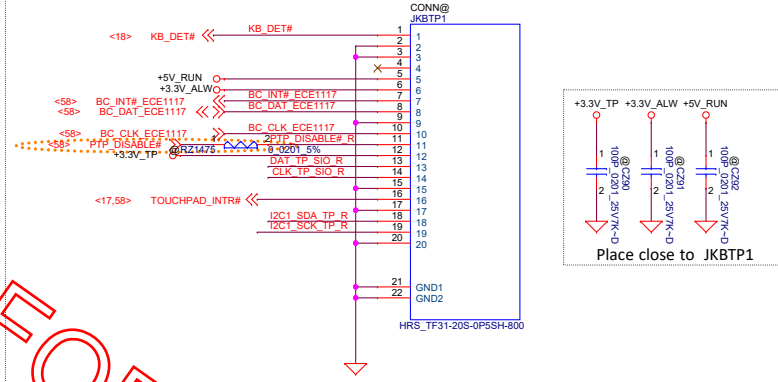


## Tough Pad

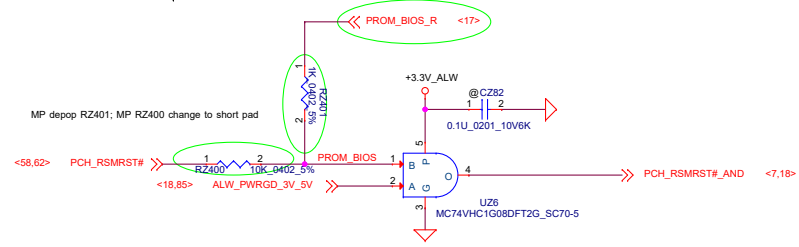


JKBTP1 FOLLOW NB schematic NB15UD\_180628

## Keyboard



## RSMRST circuit



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Keyboard

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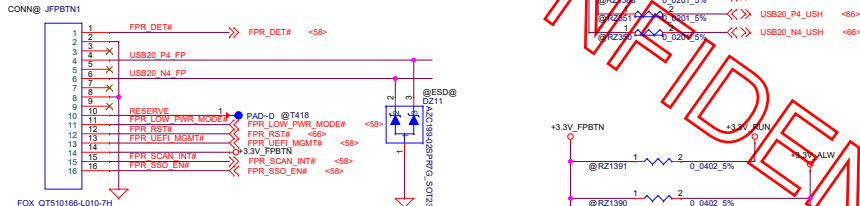
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# BH SUPPORT FPR in Power BUTTON SCHEMATIC FOLLOW NB15UD\_180605

FP in PWR BUTTON connector

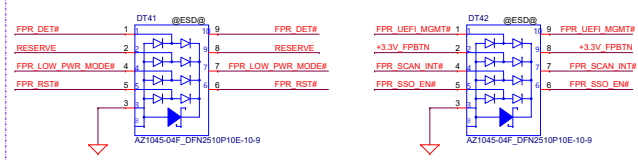
FP IN RTN USB2.0 need check port map

NEED check EC GPIO TABLE

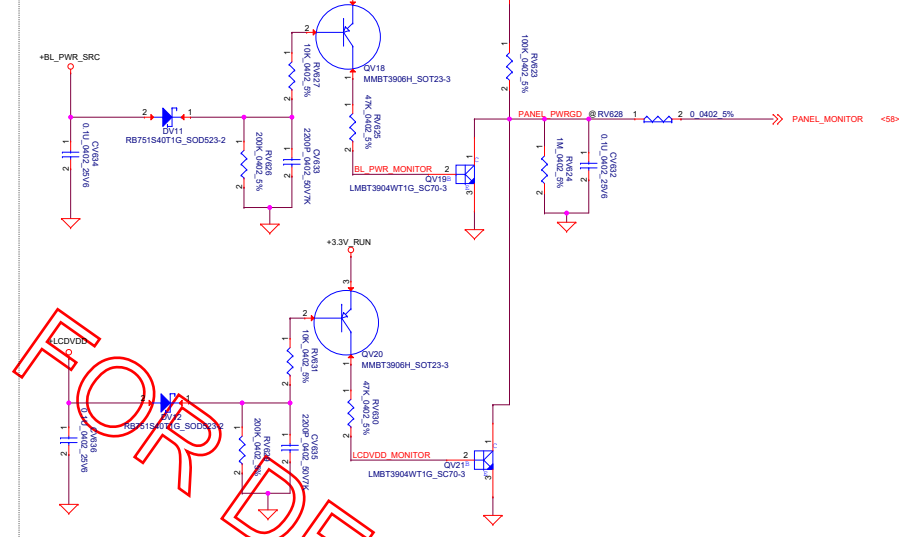


Compal MB CONN Symbol	Signal	FPR Symbol
2	GND	1
4	USB DP(D+)	2
6	USB DM(D-)	3
8	GND	4
10	RESERVED	5
12	FP RESET#	6
14	+3.3V_FPBTN	7
16	FPR_SSO_EN#	8
9	FPR_SCAN_INT#	9
13	FPR_UEFI_MGMT#	10
11	FPR_LOW_PWR_MODE#	11
9	NA	12
7	NA	13
5	NA	14
3	NA	15
1	FPR_DET#(GND)	16

9/26 ESD Request



For BL\_PWR\_SRC & LCDVDD monitor



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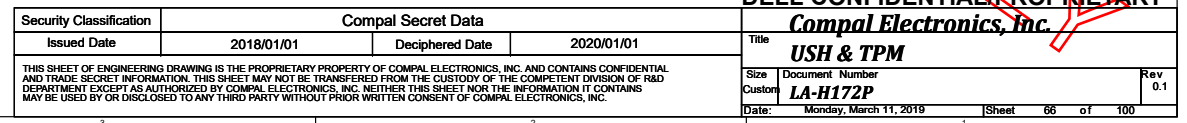


Title	Document Number	Rev
FP in PWRBTN	LA-H172P	0.1
Date: Monday, March 11, 2019	Sheet 65 of 100	

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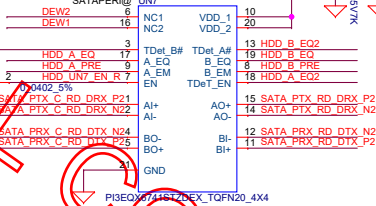
BH USH/B SUPPORT CV3  
SCHEMATIC FOLLOW NB15UD\_180605

BH USH/B SUPPORT CV3  
SCHEMATIC FOLLOW NB15UD\_180605



	pin 3	pin 6	pin 13	pin 16	pin 18
Pericom	TDet_B#	NC	TDet_A#	NC	TDet_EN
TI	GN1	DEW1	GND	DEW1	GND
Parade	GN1	REXT	B_EQ2	DEW	A_EQ2

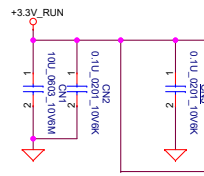
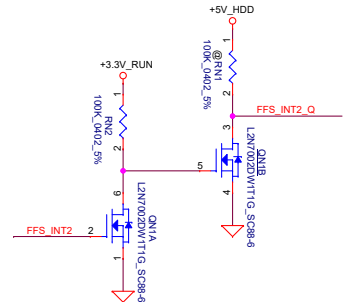
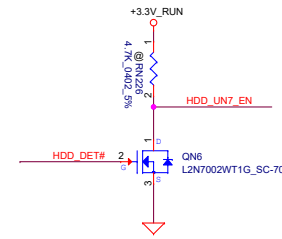
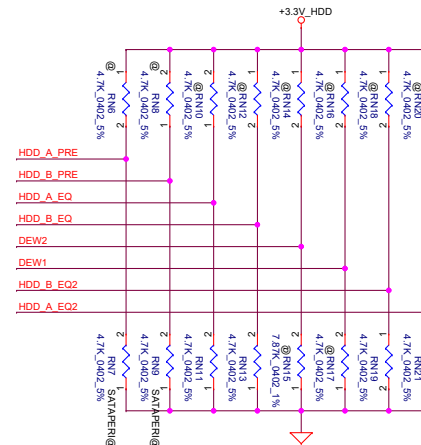
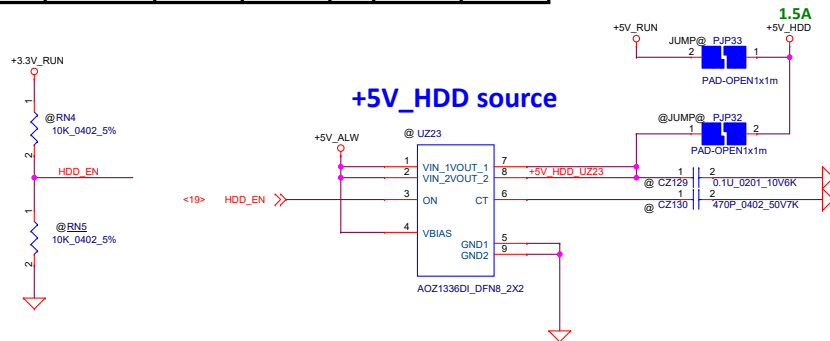
## SATA Repeater



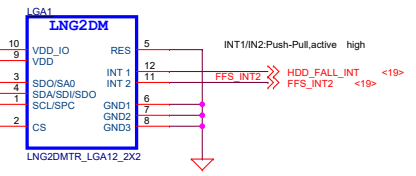
		HDD_A_EQ PIN17	HDD_B_EQ PIN19	HDD_A_EQ2 PIN18	HDD_B_EQ2 PIN19	DEW1 PIN16	DEW2 PIN6	HDD_A_PRE PIN9	HDD_B_PRE PIN8
Pericom	PI3EQX6741ST	PD (RN11)	PD (RN13)	PD (RN21)	PD (RN19)	NC	NC	PD (RN7)	PD (RN9)
TI	SN75LVCP601	PD (RN11)	NC	PD (RN21)	PD (RN19)	NC (IFU)	NC (IFU)	PD (RN6)	PH (RN8)
Parade	PS8527C	PD (RN11)	PD (RN13)	PD (RN21)	PD (RN19)	NC (1/2 VDD)	NC (1/2 VDD)	PD (RN15)	NC (1/2 VDD)

			A_EQ	B_EQ		A_EM	B_EM	
Main	Pericom	0	3dB	3dB	0	0dB	0dB	
		NC	6dB	6dB	NC			
		1	9dB	9dB	1	1.5dB	1.5dB	
2nd	TI	0	7dB	7dB	0	0dB	0dB	
		NC	0dB	0dB	NC	-4dB	-4dB	
		1	14dB	14dB	1	-2dB	-2dB	
3rd	Parade	EQ2	EQ1	A_EQ	B_EQ		A_EM	B_EM
		(M = VDD/2)						
		0	M	2.4dB	2.4dB			
		0	0	7.4dB	7.4dB			
		0	1	14.4dB	14.4dB	0	0dB	0dB
		M	M	12.2dB	12.2dB	M	-3.5dB	-3.5dB
		M	0	9.4dB	9.4dB	1	-6dB	-6dB
		M	1	13.3dB	13.3dB			
		1	M	6.2dB	6.2dB			
		1	0	11.2dB	11.2dB			
		1	1	5dB	5dB			

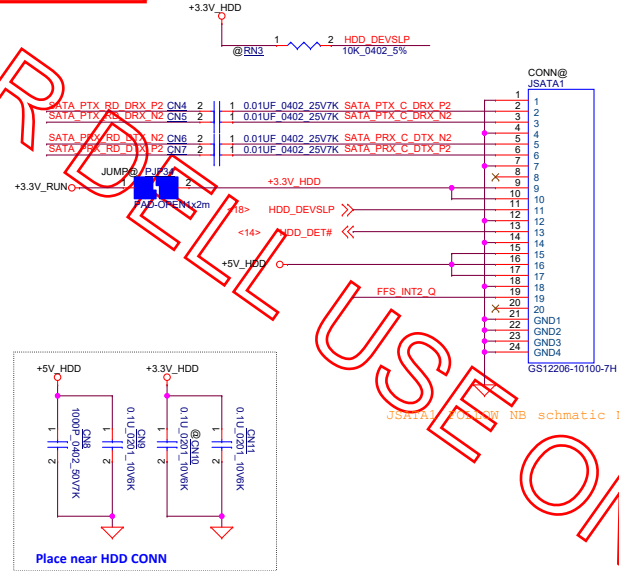
\* red color is current setting



## Free Fall Sensor



Command	SAD[6:1]	SAD[0] = SA0	R/W	SAD+R/W
Read	010100	0	1	01010001 (51h)
Write	010100	0	0	01010000 (50h)
Read	010100	1	1	01010011 (53h)
Write	010100	1	0	01010010 (52h)



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Date:	Monday, March 11, 2019	Sheet 67 of 100

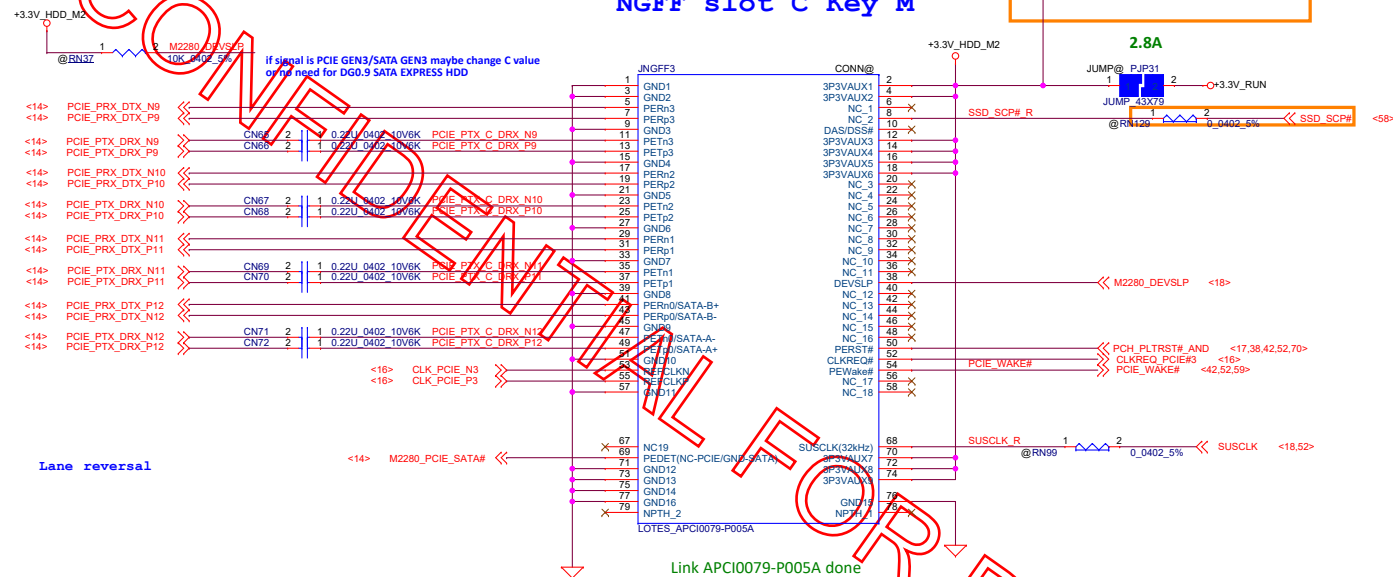
[illegible]

2.8A

@JUMP@ PJP1604 2 +3.3V\_SSD

JUMP\_43X79

NGFF slot C Key M



Link APCI0079-P005A done

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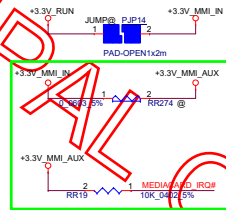
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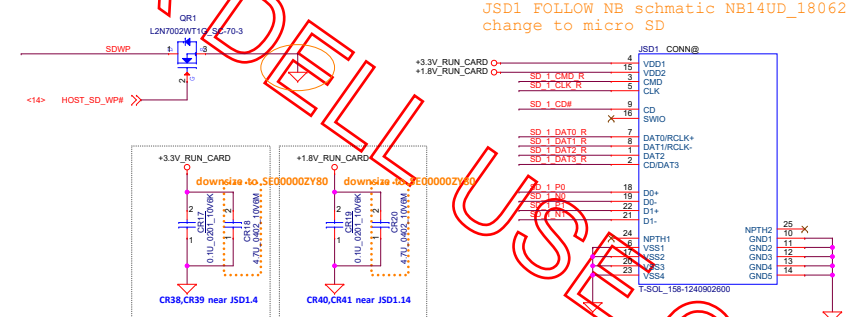
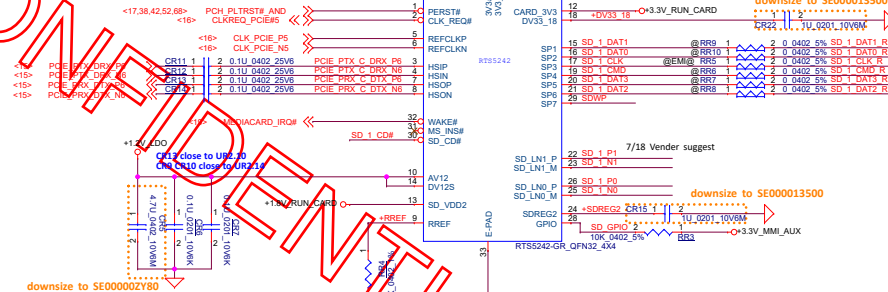


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Size	Document Number				
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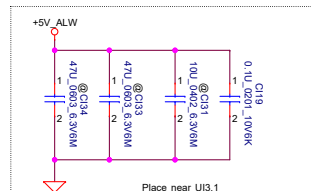
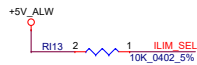
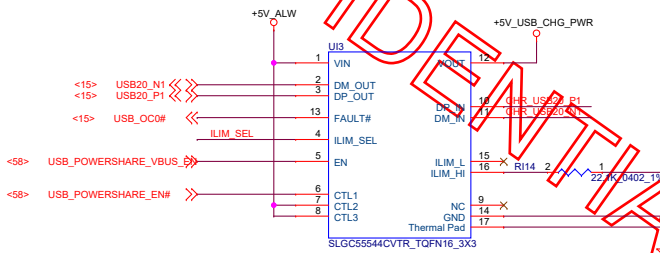
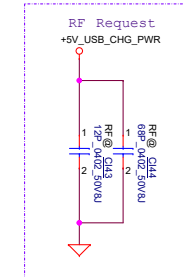
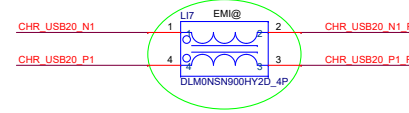
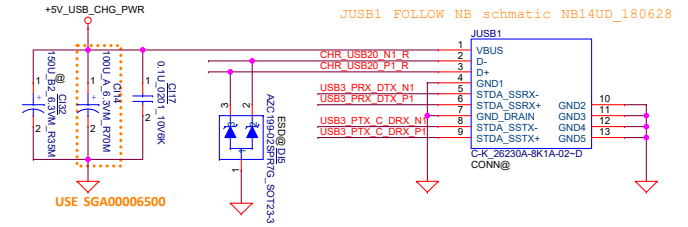
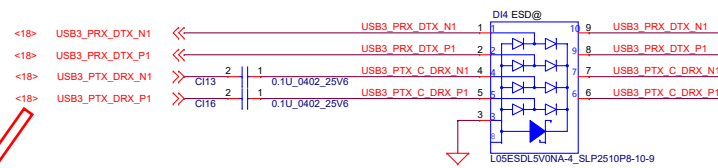
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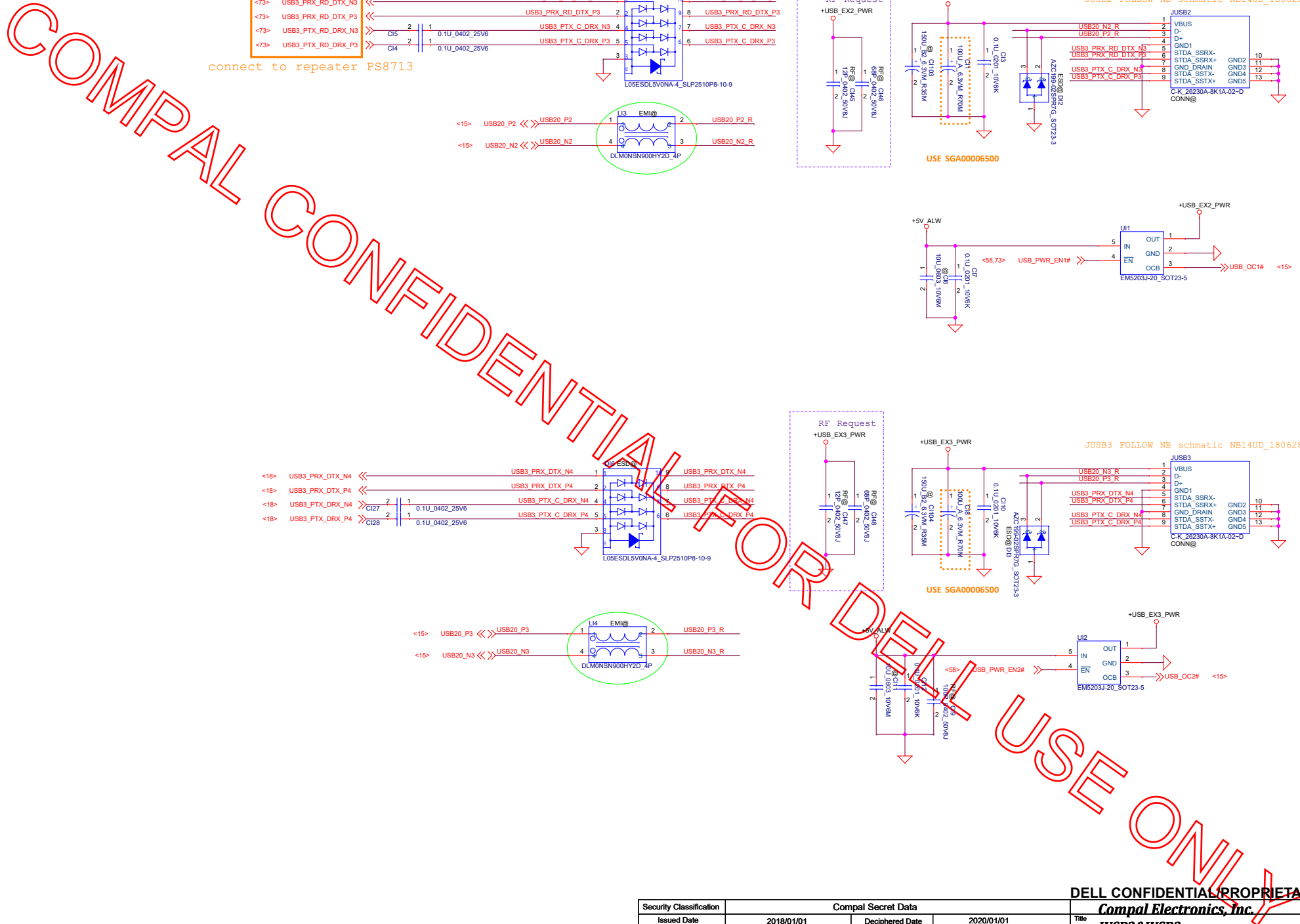
support D3 Hot(if D3 cold PIN11,PIN27 need Add MOS on/of f 3V3AUX)



For PWR SW + Charger combine IC



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USB SW					
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2					

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Title	
JUSB2&JUSB3	
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**FOR LEFT JUSB2 USE**

**Parade\_PS8713B**

A_EQ1	A_EQ0	B_EQ1	B_EQ0	Recommended EQ
0	0	0	0	loss up to 9.5dB
0	1	0	1	loss up to 13dB
1	0	1	0	loss up to 4.5dB
1	1	1	1	loss up to 7.5dB

Both A EQ&B EQ have internal pull-down 150k

A_DE1	A_DE0	B_DE1	B_DE0	Recommended DE
0	0	0	0	3.5dB de-emphasis
0	1	0	1	No de-emphasis
1	0	1	0	2.7dB de-emphasis
1	1	1	1	5dB de-emphasis

Both A DE&B DE have internal pull-down 150k

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### USB3.0 Repeater for JUSB3

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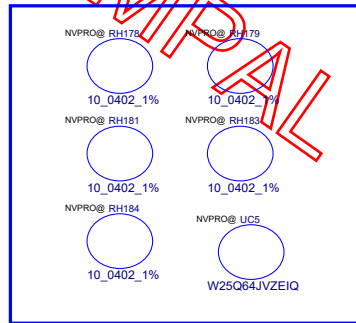
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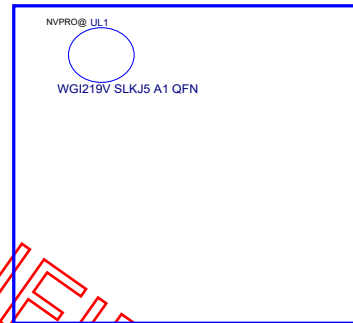
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Size	Document Number				
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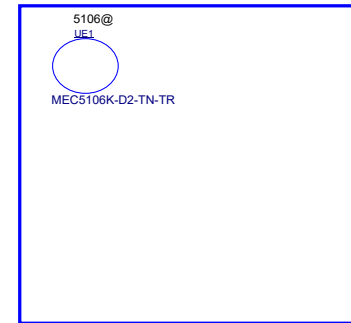
FOR NVPRO ROM BOM OPTION



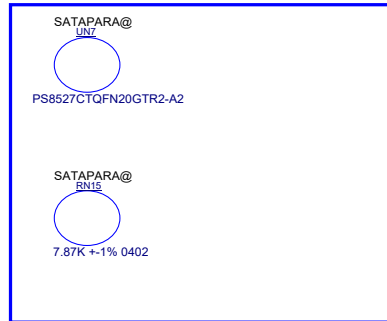
FOR NVPRO LAN chip BOM OPTION



FOR EC MEC5106 BOM OPTION



FOR SATA repeater BOM OPTION



FOR SATA repeater X76

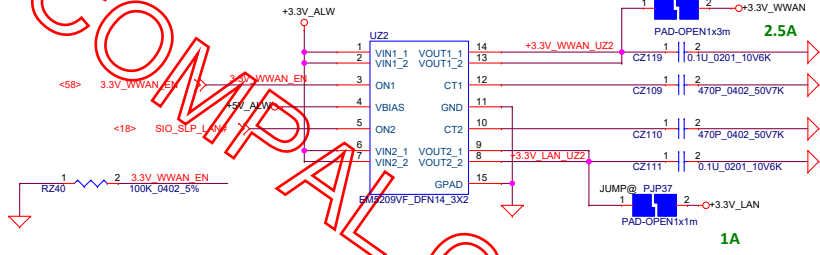


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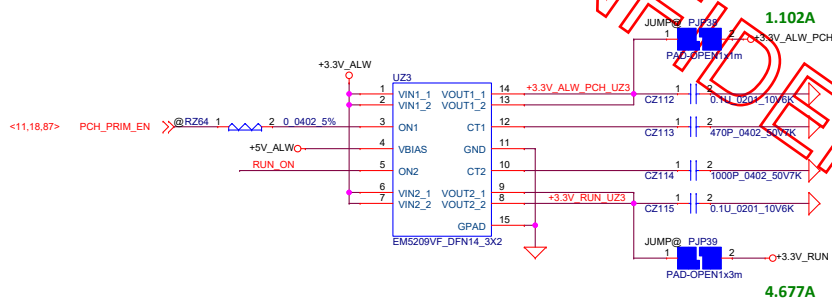
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Bom option	
LA-H171P	
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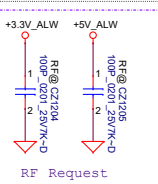
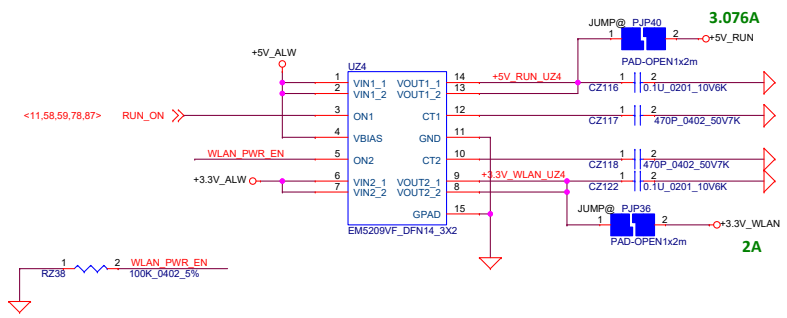
### +3.3V\_WWAN/+3.3V\_LAN source



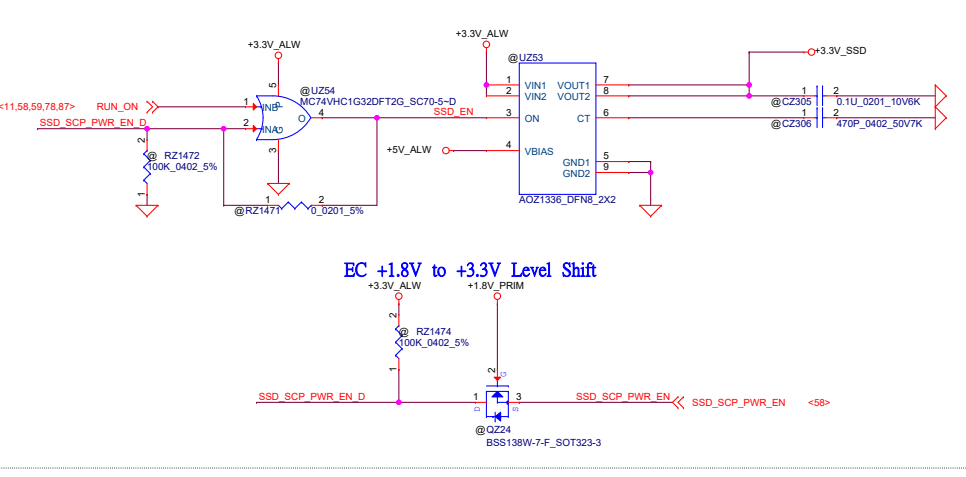
### +3.3V\_ALW\_PCH/+3.3V\_RUN source



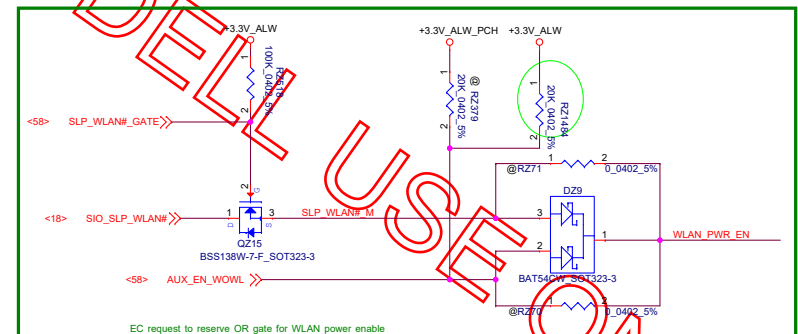
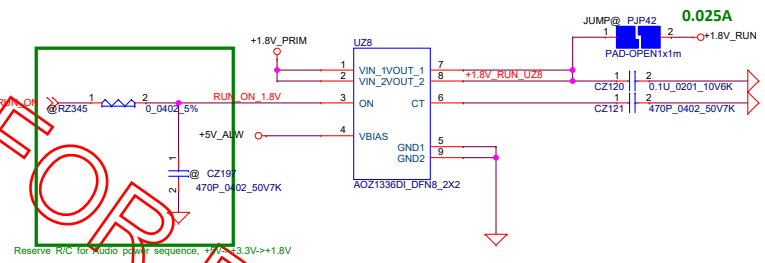
### +5V\_RUN/+3.3V\_WLAN source



### Reserve for SSD storage protection power gate control



### +1.8V\_RUN source



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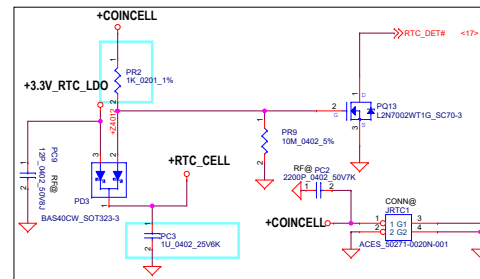
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Google Debug & INAs			
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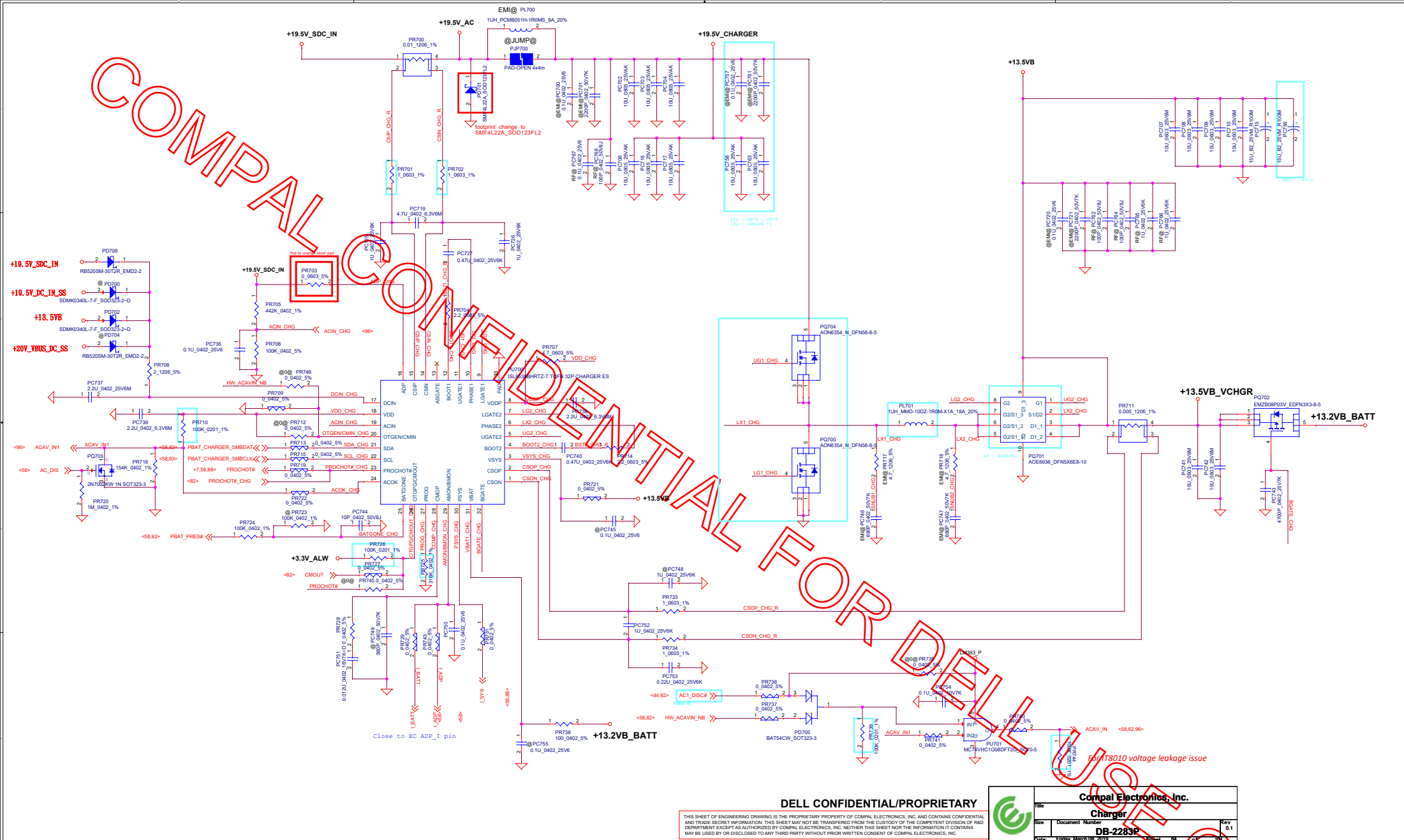
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File PWR-Block Diagram			
Size	Document Number DB-2283P		Rev 0.1
Date: Friday, March 08, 2019		Sheet 81	of 101



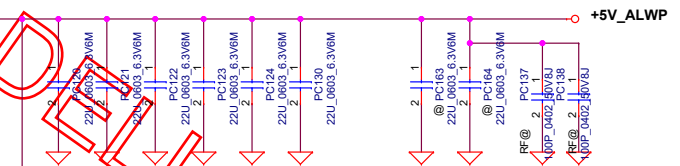
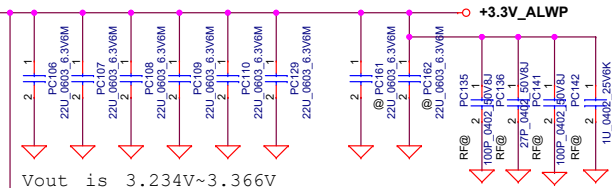
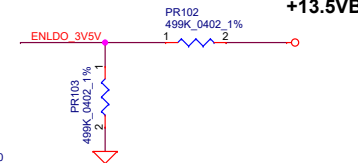




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Charger			
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0.1

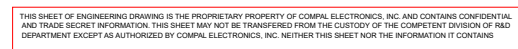
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DB-2283P

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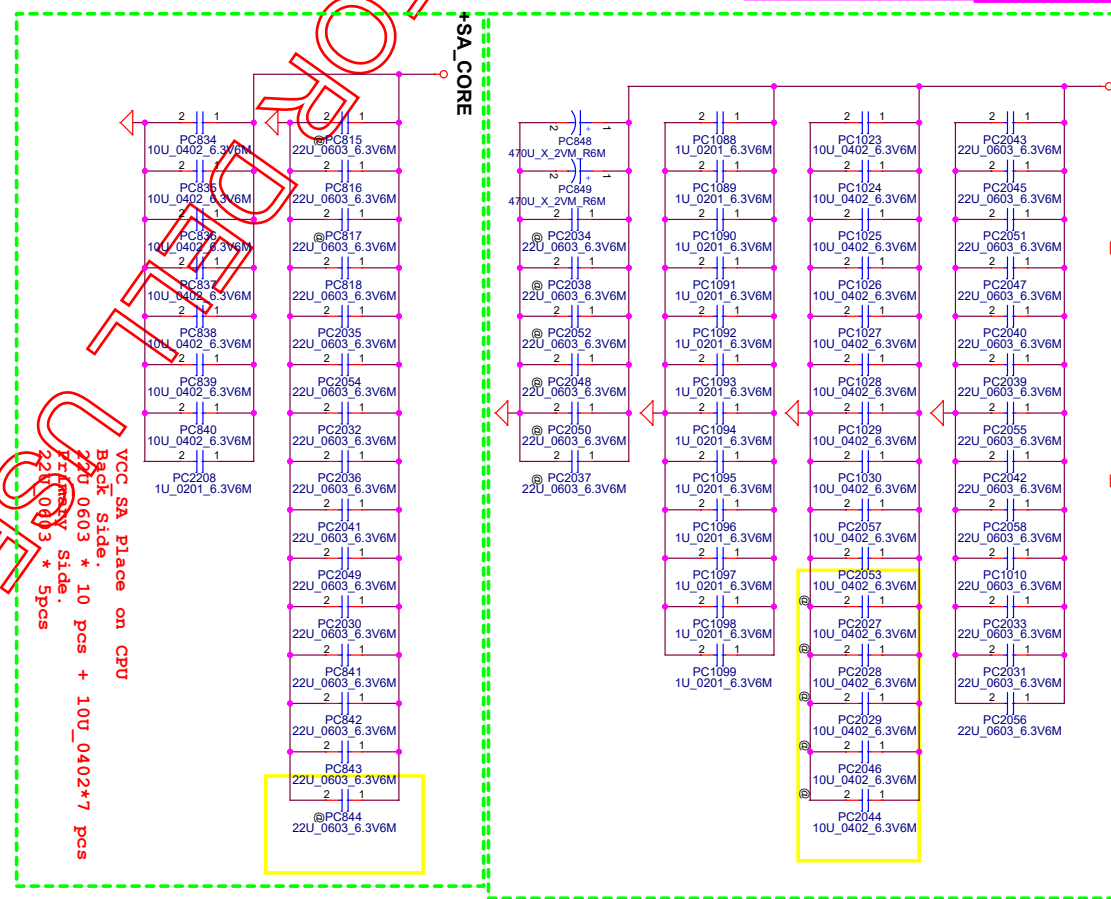
+IA\_CORE




+IA_CORE		H62		H82	
caps(uF)	size	Backside	Primary	Backside	Primary
47	0603			1	7
22	0603		23	22	9(DV)
10	0402		21	21	
1	0201		24	48	
220	D7	2		2	
330	D2		2	2	

+GT\_CORE  
VCC GT Place on CPU  
Back Side.  
22u 0603 \* 6 pcs +10u 0402\*10 pcs +1u 0201\*12 pcs  
Primary Side.  
22u 0603 \* 7 pcs +470u D2\*2 pcs

+SA\_CORE



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CPU Decoupling Cap


Document Number: DB-2283P

Date: 11/05/2013

Rev: 0.1

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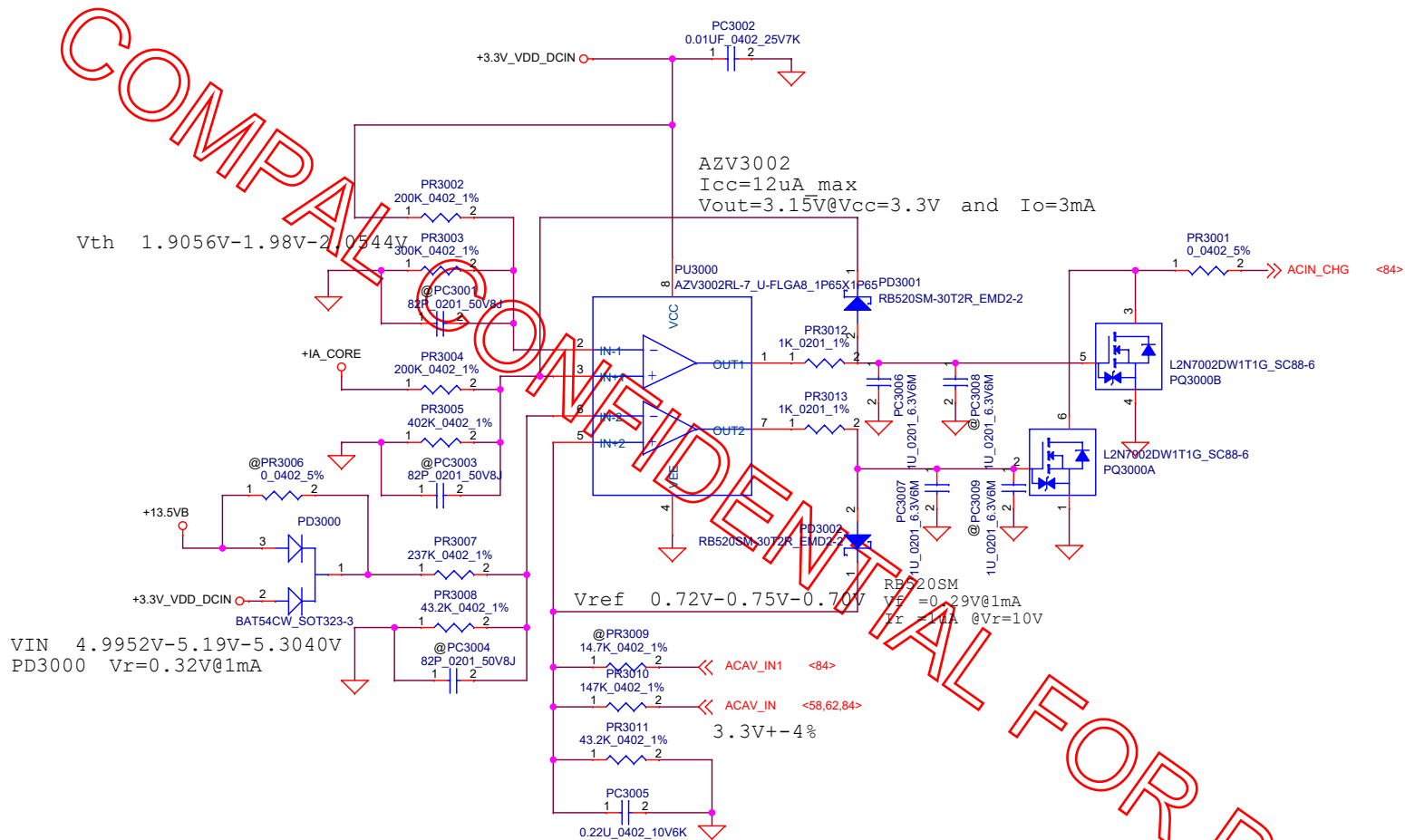
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# Reserve

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**CPU**

H82@ PR24T 24.3K\_0402\_1%  
H42@ PR24T 68.1K\_0402\_1%  
H42@ PR248 20.5K\_0402\_1%  
H82@ PR268 110K\_0402\_1%




**OUTPUT CAPS**


H82@ PC1034 47U\_0603\_6.3V6M



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Version Change List ( P. I. R, List )			
Item	Page#	Date	Rev.
Issue Description		Solution Description	
item	Title	Description	Remark
1	change 0 Ohm to Short pad:	<p>UMA(55):  PR19,PR20,PR22,PR25,PR861,PR42,PR44,PR46,PR47,PR49,PR104,PR105,PR119,P  R120,PR709,PR713,PR715,PR719,PR721,PR722,PR727,PR729,PR731,PR736,PR73  7,PR740,PR741,PR743,PR814,PR816,PR818,PR820,PR826,PR827,PR829,PR1652,  PR836,PR840,PR844,PR853,PR854,PR858,PR859,PRZ11,PRZ13,PRZ27,PRZ31,PRZ  78,PRZ79,PRZ30,PRZ38,PRZ21,PRZ28,PR1651,PR1649</p> <p>DIS(4):  PR1302,PR1305,PR1315,PR1406</p> <p>add note : Not to change short pad  PR866,PR114  PR1616,PR1618,PR1620,PR1626,PR1624,PR1622,  PR1617,PR1619,PR1621,PR1627,PR1625,PR1623</p>	
2	Power path S1 fast turn off circuit simplify	un stuff PC13,PU3,PR45,PC814,PU801,PR855	Follow NB
3	+3.3V_VDD_DCIN LDO circuit	<p>change PR871 and PR872 to 22_0805_5% (SD002220A80)  Function field 39.10  PD803 Pin 1 add net name : +20V_LDO_input  ✖Please check layout trace at least 20 mil  Delete PR868 colay footprint</p>	Follow NB
4	Charger UVP and CPU OVP circuit modify	<p>PR3010 change value from 14.7K to 147K(SD034147380)  PR3011 change value from 4.32K to 43.2K(SD034432280)</p> <p>Change PU3000 from SA0000A6500 to SA0000A6400</p>	<p>Follow NB,for more  sequence margin.</p> <p>SA0000A6500 test has  abnormal problem  when default initial</p>
5	Common BOM modify	Change PLH1,PLH2,PLH3,PLH4,PLT1,PL1302,PL1301 from SH00001D800 to SH00001EE00	change to common PN
6	Dr.mos Main/2nd/3rd source is group alternative, need to place on same layer for SMT process.	<p>Change PR1616,PR1618,PR1620,PR1626,PR1624,PR1622 from 0_0402 to 0_0201  Change PR1617,PR1619,PR1621,PR1627,PR1625,PR1623 from 0_0402 to 0_0201</p>	Placement need modify the x76 components on the same layer
7	Fine tune GPU enable sequence	Change PR1309 from 100K_0402_1% to 1K_0402_1% (SD034100180)	EE requirements Fine turn GPU Power sequence
<div> <div>  <div> <div>DELL CONFIDENTIAL/PROPRIETARY</div> <div>Compal Electronics, Inc.</div> <div>PWR P.I.R</div> </div> </div> <div> <div>Size</div> <div>Document Number</div> <div>Date: Friday, March 08, 2019</div> </div> <div> <div>Rev</div> <div>0.1</div> <div>Sheet 101 of 101</div> </div> </div>			
<div> <div> <div>PROPRIETARY NOTE: THIS SHEET OF ENGINEERING DRAWING AND SPECIFICATIONS CONTAINS CONFIDENTIAL TRADE SECRET AND OTHER PROPRIETARY INFORMATION OF DELL INC. ("DELL") THIS DOCUMENT MAY NOT BE TRANSFERRED OR COPIED WITHOUT THE EXPRESS WRITTEN AUTHORIZATION OF DELL. IN ADDITION, NEITHER THIS SHEET NOR THE INFORMATION IT CONTAINS MAY BE USED BY OR DISCLOSED TO ANY THIRD PARTY WITHOUT DELL'S EXPRESS WRITTEN CONSENT.</div> </div> </div>			

Version Change List ( P. I. R. List )				Solution	Rev.
Item	Page#	Date	Issue Description	Description	
1	70	2018/05/23	follow BH ARD(v0.5) define	JSD1 connector use Micro SD type,QR1.3 change to gnd	0.1(X00)
2	44	2018/05/23	PD USB2.0 source from PCH follow X10 NB	PD USB2.0 source change from TBT to PCH depop RT402,403 pop RT400,RT401	0.1(X00)
3	46	2018/06/05	add TBT type c short protection circuit	implement AR type c short protection circuit ,add RT190~RT197,CT326~CT329,CT95~CT98,RT488~RT491,RT219~RT222	0.1(X00)
4	43	2018/06/05	change PD and AR power rail	1.PJP6 no solder,RT48 pop 2.add RT399 pop,RT398 depop for +3.3V_VDD_PIC option 3.add RT482 depop,RT483 pop for +3.3V_VDD_PIC_PDA option,remove PJP7	0.1(X00)
5	38	2018/06/05	follow NB JEDP1,JTS1 pin define	remove LV27,DV4,JIR1,UH1.M6,UH1.N8 add JIRTS1,pin define follow NB add RV733,RV732 JEDP1.1 +5V_TSP- +TS_PWR_SRC JEDP1.2 USB20_N9_R- NC JEDP1.3 USB20_P9_R- NC QV8.1 +5V_TSP- +TS_PWR_SRC check TS_INT#,TS_I2C_SDA,TS_I2C_SCL GPIO	0.1(X00)
6	11	2018/06/08	power follow compal naming rule,HW synchronize change net name	VSS_IO_SENSE- VSSIO_SENSE VCC_IO_SENSE- VCCIO_SENSE VSS_GT_SENSE- VSS_SENSE_GT VCC_GT_SENSE- VCC_SENSE_GT VCC_SA_SENSE- VCC_SENSE_SA VSS_SA_SENSE- VSS_SENSE_SA VCC_SENSE- VCC_SENSE_IA VSS_SENSE- VSS_SENSE_IA +PWR_SRC- +13.5VB +TBTA_Vbus_1- +20V_TBTA_Vbus_1	0.1(X00)
7	56	2018/06/08	change audio codec solution to ALC 3204	follow ARD implement ALC 3204 schmatic(UA1)	0.1(X00)
8	66	2018/06/08	follow USH/B pin define	JUSH1 pin define follow NB,support USH/B CV3 remove LZ2,CZ61 add RZ1414 RZ114 pop 1.JUSH.1 +PWR_SRC_R- POWER_SW#_MB_USH 2.JUSH.2 NC- FPR_RST#_USH 3.JUSH.4 POA_WAKE#_R- USB20_N4_USH 4.JUSH.5 EC_FPM_EN- USB20_P4_USH 5.JUSH.17 NC- +5V_ALW 6.JUSH.21 USH_RST#_R- FPR_SCAN_INT#_R 7.JUSH.25_GND- NFC_ACTIVITY_STATUS#_R	0.1(X00)
9	68	2018/06/08	Reserve for SSD storage protection power gate control schematic	1.add PJP1604,RN131 RZ110 for +3.3V_SSD power option 2.add RN129 for SSD protection 3.add UZ53,UZ54,RZ1471,RZ1472,CZ305,CZ306,RZ1474,QZ24(depope) 4.check SSD_SCP#,SSD_SCP_PWR_EN GPIO	0.1(X00)
10	62	2018/06/08	add M-BIST HW Circuit	1.remove HDD_LED_MUX circuit(remove QZ2,RZ25) 2.add M_BIST circuit(DZ12,RZ1415,RZ1482,RZ1413,CZ218,QZ21,QZ3,RZ25)	0.1(X00)
11	17	2018/06/08	BOM option for VPRO,non-VPRO	1.UC6 change to SA00005VV20(follow NB) 2.NVPRO@ RH352,RH353,UC6,CH270,RH177,RH657,RH658,RH659,RH660,UC5,RH178,RH179,RH181,RH183,RH184 3.VPRO@ UC5,RH178,RH179,RH181,RH183,RH184,UL1 4.add NVPRO_LAN_CHIP_UL1 SA00009340L 5.RZ59,RZ58,RZ60 change to 33 ohm and BOM structure NA	0.1(X00)

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Item	Page#	Date	Description	Solution	Rev.				
25	58	2018/07/12	GPIO modify	remove RE566,RH639,RH638,RH624,RH360,RH330,RH621,RH622,RH623,RE101,RH207,RH322,RH425 add RE340,RH661 1.UE1.D1 HDD_EN_EC → TBT RESET_N_EC 2.UE1.D6 EC_FPM_EN → FREE 3.UE1.E4 POA_WAKE# → FREE(VCI_IN3#) 4.UE1.J6 CG6 ACPI_CHECK → NB_MODE# 5.UE1.K1 PCH_PLTRST#_EC → WWAN_GPIO_CTRL 6.UE1.L8 TBT_RESET_N_EC → FPR_SCAN_INT# 7.UH1.AP21 RTD3_CIO_PWR_EN → FREE 8.UH1.AE43 NC → RTD3_CIO_PWR_EN 9.UH1.AR32 TBT_RTD3_WAKE# → NC 10.UH1.T47 NC → TBT_RTD3_WAKE# 11.UH1.BE20 LPSS_UART2_TXD → FREE 12.UH1.AW21 CNV_EN# → FREE 13.UH1.BE23 PCH_TBT_PERST# → FREE 14.UH1.AM48 FREE → PCH_TBT_PERST#	0.1 (X00)				
26	17,18	2018/07/23	3.3V_CAM_EN# change,TBT_RTD3_WAKE# reserve	1. 3.3V_CAM_EN# contact to PCH_GPP_D2(pin BE18) 2. Reserve 0ohm for TBT_RTD3_WAKE# to PCH_GPD7(pin BE41) add RC834,RH662@,RH663 change name RH602.1 TBT_RTD3_WAKE#_GPD7 change name RH661.2 TBT_RTD3_WAKE#_K18	0.1 (X00)				
27	58	2018/07/24	remove EC_VTR3_3V3 power jump	1.remove PJP21 2.+1.8V_3.3V_ALW_VTR3 → +1.8V_ALW_VTR3	0.1 (X00)				
28	44	2018/07/24	Vendor review,PD cc cap value change	CT85,CT86 470pF → 220pF RT98_0_ohm → 100k_ohm	0.1 (X00)				
29	12	2018/07/25	VCCPLL bead stuff	VCCPLL LC562 stuff,RC422 unstuff	0.1 (X00)				
30	16	2018/07/25	ESD reserve Components	reserve CH554,CE548,CC549,CH550,CH551,CH552,CC556,CH553,DA9,DA10,DZ13,CC557,CC558	0.1 (X00)				
31	17	2018/07/26	follow NB ROM part change	1.UC5_VPRO use SA00009RI10 2.UC5_NVPRO use SA00003X910 3.UC6_NVPRO use SA00005VV20	0.1 (X00)				
32	38	2018/07/31	EMI change choke size	LZ1,LI1,LI3,LI4 SM070005U00	0.1 (X00)				
33	12	2018/07/31	power name change	1.+VCC_CORE → +IA_CORE 2.+VCC_GT → +GT_CORE 3.+VCC_SA → +SA_CORE	0.1 (X00)				
34	9	2018/08/03	change DDI port	1.(DDI1) HDMI→ AR_P0 2.(DDI2) AR_P0→ AR_P1 3.(DDI3) AR_P1→ AR_P2	0.1 (X00)				
35	44	2018/08/08	Change PD controller to 65982DD	Change UT5 part to SA0000C8000 from SA0000BIJ00.	0.1 (X00)				
36	66	2018/08/08	Change ST TPM to ST33HTPH2032AHC1	Change UZ12 part to SA0000C5G10 from SA00009S040.	0.1 (X00)				
37	16	2018/08/10	follow CFL_H_PDG_24MHZ topology	remove RH437,direct connect	0.1 (X00)				
38	62	2018/08/14	follow NB_M_BIST schematic	1.DZ12,RZ1413 unstuff 2.add RZ1482(M_BIST_R) PU +3.3V_ALW 3.CZ218 change to 2.2uF	0.1 (X00)				
39	17	2018/08/14	not support KBL_H	remove RH171	0.1 (X00)				
40	56	2018/08/14	codec bom modify follow NB	RA53 stuff,RA54 unstuff	0.1 (X00)				
41	17	2018/08/14	WWAN_PWR_EN connect to PCH	1.WWAN_PWR_EN need connect to PCH pin GPP_D0 2.WWAN_PWR_EN change net name to WWAN_FULL_PWR_EN	0.1 (X00)				
42	14	2018/08/14	CNVI_PDG update	RZ1382,RZ1384 change to 33 ohm,close to PCH	0.1 (X00)				
43	52	2018/08/22	naming change	1.+TS_PWR_SRC → +TS_PWR 2.remove RE361,PRIM_PWRGD → 1.8V_1.0V_PWRGD 3.RZ1483 change to unstuff	0.1 (X00)				
				remove RE566,RH639,RH638,RH624,RH360,RH330,RH621,RH622,RH623,RE101,RH207,RH322,RH425 add RE340,RH661 1.UE1.D1 HDD_EN_EC → TBT RESET_N_EC 2.UE1.D6 EC_FPM_EN → FREE 3.UE1.E4 POA_WAKE# → FREE(VCI_IN3#) 4.UE1.J6 CG6 ACPI_CHECK → NB_MODE# 5.UE1.K1 PCH_PLTRST#_EC → WWAN_GPIO_CTRL 6.UE1.L8 TBT_RESET_N_EC → FPR_SCAN_INT# 7.UH1.AP21 RTD3_CIO_PWR_EN → FREE 8.UH1.AE43 NC → RTD3_CIO_PWR_EN 9.UH1.AR32 TBT_RTD3_WAKE# → NC 10.UH1.T47 NC → TBT_RTD3_WAKE# 11.UH1.BE20 LPSS_UART2_TXD → FREE 12.UH1.AW21 CNV_EN# → FREE 13.UH1.BE23 PCH_TBT_PERST# → FREE 14.UH1.AM48 FREE → PCH_TBT_PERST#					
				1. 3.3V_CAM_EN# contact to PCH_GPP_D2(pin BE18) 2. Reserve 0ohm for TBT_RTD3_WAKE# to PCH_GPD7(pin BE41) add RC834,RH662@,RH663 change name RH602.1 TBT_RTD3_WAKE#_GPD7 change name RH661.2 TBT_RTD3_WAKE#_K18					
				1.remove PJP21 2.+1.8V_3.3V_ALW_VTR3 → +1.8V_ALW_VTR3					
				CT85,CT86 470pF → 220pF RT98_0_ohm → 100k_ohm					
				VCCPLL LC562 stuff,RC422 unstuff					
				reserve CH554,CE548,CC549,CH550,CH551,CH552,CC556,CH553,DA9,DA10,DZ13,CC557,CC558					
				1.UC5_VPRO use SA00009RI10 2.UC5_NVPRO use SA00003X910 3.UC6_NVPRO use SA00005VV20					
				LZ1,LI1,LI3,LI4 SM070005U00					
				1.+VCC_CORE → +IA_CORE 2.+VCC_GT → +GT_CORE 3.+VCC_SA → +SA_CORE					
				1.(DDI1) HDMI→ AR_P0 2.(DDI2) AR_P0→ AR_P1 3.(DDI3) AR_P1→ AR_P2					
				Change UT5 part to SA0000C8000 from SA0000BIJ00.					
				Change UZ12 part to SA0000C5G10 from SA00009S040.					
				remove RH437,direct connect					
				1.DZ12,RZ1413 unstuff 2.add RZ1482(M_BIST_R) PU +3.3V_ALW 3.CZ218 change to 2.2uF					
				remove RH171					
				RA53 stuff,RA54 unstuff					
				1.WWAN_PWR_EN need connect to PCH pin GPP_D0 2.WWAN_PWR_EN change net name to WWAN_FULL_PWR_EN					
				RZ1382,RZ1384 change to 33 ohm,close to PCH					
				1.+TS_PWR_SRC → +TS_PWR 2.remove RE361,PRIM_PWRGD → 1.8V_1.0V_PWRGD 3.RZ1483 change to unstuff					
				remove RE566,RH639,RH638,RH624,RH360,RH330,RH621,RH622,RH623,RE101,RH207,RH322,RH425 add RE340,RH661 1.UE1.D1 HDD_EN_EC → TBT RESET_N_EC 2.UE1.D6 EC_FPM_EN → FREE 3.UE1.E4 POA_WAKE# → FREE(VCI_IN3#) 4.UE1.J6 CG6 ACPI_CHECK → NB_MODE# 5.UE1.K1 PCH_PLTRST#_EC → WWAN_GPIO_CTRL 6.UE1.L8 TBT_RESET_N_EC → FPR_SCAN_INT# 7.UH1.AP21 RTD3_CIO_PWR_EN → FREE 8.UH1.AE43 NC → RTD3_CIO_PWR_EN 9.UH1.AR32 TBT_RTD3_WAKE# → NC 10.UH1.T47 NC → TBT_RTD3_WAKE# 11.UH1.BE20 LPSS_UART2_TXD → FREE 12.UH1.AW21 CNV_EN# → FREE 13.UH1.BE23 PCH_TBT_PERST# → FREE 14.UH1.AM48 FREE → PCH_TBT_PERST#					
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				1.remove PJP21 2.+1.8V_3.3V_ALW_VTR3 → +1.8V_ALW_VTR3					
				CT85,CT86 470pF → 220pF RT98_0_ohm → 100k_ohm					
				VCCPLL LC562 stuff,RC422 unstuff					
				reserve CH554,CE548,CC549,CH550,CH551,CH552,CC556,CH553,DA9,DA10,DZ13,CC557,CC558					
				1.UC5_VPRO use SA00009RI10 2.UC5_NVPRO use SA00003X910 3.UC6_NVPRO use SA00005VV20					
				LZ1,LI1,LI3,LI4 SM070005U00					
				1.+VCC_CORE → +IA_CORE 2.+VCC_GT → +GT_CORE 3.+VCC_SA → +SA_CORE					
				1.(DDI1) HDMI→ AR_P0 2.(DDI2) AR_P0→ AR_P1 3.(DDI3) AR_P1→ AR_P2					
				Change UT5 part to SA0000C8000 from SA0000BIJ00.					
				Change UZ12 part to SA0000C5G10 from SA00009S040.					
				remove RH437,direct connect					
				1.DZ12,RZ1413 unstuff 2.add RZ1482(M_BIST_R) PU +3.3V_ALW 3.CZ218 change to 2.2uF					
				remove RH171					
				RA53 stuff,RA54 unstuff					
				1.WWAN_PWR_EN need connect to PCH pin GPP_D0 2.WWAN_PWR_EN change net name to WWAN_FULL_PWR_EN					
				RZ1382,RZ1384 change to 33 ohm,close to PCH					
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Item	Page#	Date	Description	Description	
44	44	2018/08/22	follow compal naming rule	TBTA_TOP_P → SW_TBT_A_USB20_P2 TBTA_TOP_N → SW_TBT_A_USB20_N2 TBTA_BOT_P → SW_TBT_A_USB20_P1 TBTA_BOT_N → SW_TBT_A_USB20_N1 TBTA_TOP_P_R → SW_TBT_A_USB20_P2_R TBTA_TOP_N_R → SW_TBT_A_USB20_N2_R TBTA_BOT_P_R → SW_TBT_A_USB20_P1_R TBTA_BOT_N_R → SW_TBT_A_USB20_N1_R	0.1 (X00)
45	52	2018/08/28	implement support 7360 card schematic	1.add component RZ1397,QZ19,RZ1398,RZ1399,UZ51,CZ216,RZ1395,RZ1396,RZ1394,RZ1403,RZ1404,CZ217,RZ1406, RZ1401,RZ1481,RZ1480,RZ1402,RZ1405,RZ1400,RZ1393,RZ1450,RE340,RC840,RC756,UZ52 2.JNGFF2.54 PCIE_WAKE# → WWAN_PEWAKE# 3.JNGFF2.67 NC → WWAN_BB_RST# 4.UE1.K1 NC → WWAN_GPIO_CTRL  add GPIO UH1.BC17 → WWAN_GPIO_PERST# UH1.BF35 → WWAN_BB_RST# UH1.BD17 → WWAN_GPIO_WAKE#	0.1 (X00)
46	58	2018/08/30	align NB modify schematic	1.reserve RE821 SSD_SCP# PU to +3.3V_ALW 2.WWAN reserve RZ1484,RZ375 PU 3.reserve CN77 22U for support Teton Glacier in the future	0.1 (X00)
47	54	2018/08/30	HW internal review	1.UT11.22 UT12.22 PWD pin add test point for test 2.UZ5 remove?need HW meeting discuss 3.VCCST_PWRGD not need connect to EC,remove RE308,RE552,UE1.K10 change name to SLP_WLAN#_GATE 4.NEC_ACTIVITY_STATUS# not need connect EC to USH connect,UE1.E4 change name to VCI_IN3# 5.RE401 stuff for RTC_DET# PU to +1.8V_ALW_VTR3 6.not use LPC,remove PCH_PLTRST#_EC net,remove RH244,RE375 7.remove RE560,ESPI_RESET# direct connect to JESPI 8.remove DZ7,RZ87,USH_DET# direct connect to JUSH1 9.remove NVME_LED#,SATALED#,RN100,RH380,RN101 10.for reduce power consumption,stuff RN227 11.UZ23,CZ129,CZ130 unstuff for reserve 12.JUSB2,JUSB3 VBUS add 150uF CI103,CI104 13.change name TP_DISABLE#_PTP_DISABLE#,TP_DISABLE#_R_ PTP_DISABLE#R 14.for S3 no power issue not use,remove QZ4,RZ370 15.align NB,RZ1484 stuff,RZ379 unstuff,RZ375 remove 16.remove RV1652,CV1639,name change DGPU_PWR_EN_RC_ DGPU_PWR_EN_D 17.remove QV24,RV667	0.1 (X00)
48	52	2018/09/03	WWAN_GPIO_PERST# PU power change	RZ1405 PU change to +3.3V_ALW add RZ1485 PU change to +3.3V_RUN unstuff	0.1 (X00)
49	52	2018/09/04	GPIO name change	1.HDD_EN_PCH → PCH_HDD_EN	0.1 (X00)
50	68	2018/09/04	support optane SSD add cap	1.CN60 68P_0402 change to 0.01u_0402 2.add CN80,CN81,CN84,CN82 0.01u_0402 3.add CN86 0.1u_0402	0.1 (X00)
51	18	2018/09/04	PDG eSPI series resistance update	RC366,RC367,RC368,RC369 change to 0 ohm RH97 change to 33 ohm	0.1 (X00)
52	56	2018/09/04	Space limitation,remove audio load SW	remove UZ5,PJP15,PJP16,CZ125,CZ126,CZ127,CZ128 RH345 change to @	0.1 (X00)
53	15	2018/09/05	save layout space	delete:T37,T38,RH60,RH375,RE547,RL70 downsize to 0201:RH65,RH187,CC32,RH133,RH132,RH10,RH11,RH13,RH14,RH15,RH16,RH17,RH309, RH316,RH378,RH348,RH350,RH441,RH203,RH204,RH424,RH309 change to test point:RH99(T424)	0.1 (X00)
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Item	Page#	Date	Issue Description	Description	
68	62	2019/01/03	DFX request	15" add Fiducial Mark FD8	0.3 (X02)
69	52	2019/01/03	RF BOM option	1.LI9 depop 2.RI49,RI50 change to use SM01000TP00 3.RI49,RI50 change name to LI49,LI50	0.3 (X02)
70	58	2019/01/03	reserve the CNVi detect on GPP_D20	1.remove test point T269 2.reserve 0 ohm RE828 3.RE828.1 CNVI_EN# connect to PCH GPP_D20 4.RE828.2 connect to CNV_DET#_EC 5.CNVI_EN# reserve 75K PD(RH868)	0.3 (X02)
71	52	2019/01/03	INTEL suggest REFCLK_CNV need impedance control	1.remove 0 ohm RZ371,RZ81 2.remove net ISH_UART0_RXD,ISH_UART0_TXD,ISH_UART0_CTS#,ISH_UART0_RTS#	0.3 (X02)
72	56	2019/01/03	DFX request	DA4,DA5 change footprint to 1N4148WS-7-F_SOD323-2	0.3 (X02)
73	59	2019/01/03	board ID change to X02	board ID RE79 change to X02 62K ohm	0.3 (X02)
74	38	2019/01/03	align NB reserve fuse	1.reserve FZ4,FZ5,RZ1486 2.add RZ1487,RZ1488 0 ohm	0.3 (X02)
75	23,24	2019/01/03	DFX request	JDIMM1,JDIMM2 change footprint to FOX_ASAA821-H4RB5-7H_260P	0.3 (X02)
76	38	2019/01/03	to avoid camera & DMIC lost after ESD test	pop DA9,DA10	0.3 (X02)
77		2019/01/03	0 ohm change to short pad	location reference X10 BH DVT2.0 0 Ohm_190104.xlsx	0.3 (X02)
78	66	2019/01/03	align LKE reserve TPM power source	+3.3V_VPS_UZ12 reserve 0 ohm RZ1489 to +3.3V_ALW	0.3 (X02)
79	38,58	2019/01/03	ESD request	reserve cap 0.1u TOUCH_SCREEN_PD#_R (CV113) CAM_MIC_CBL_DET# (CV112) BIA_PWM (CV111) EDP_HP (CV110) TOUCH_SCREEN_DET# (CV109) IR_CAM_DET# (CZ1203) CE548 from 0.1u 0201 change to 4700p 0402	0.3 (X02)
80	7,38	2019/01/03	ESD request	CC306,CC308,CC302,CH551,CC305,CC304,CC303,CV113,CV112,CV110,CV109,CZ1203 from reserve to add 0.1uF cap CE548 from 47nF reserve to add 47nF	0.3 (X02)
81	7,18	2019/01/03	ESD request	RC124 depop,CC307 100pf pop CH266 100 pf POP	0.3 (X02)
82	52	2019/01/03	BOM option for non WWAN SKU	HU non WWAN SKU BOM option 1.LI8,LI16,LI17,CZ198,CZ42,CZ41,CZ23~CZ26 change to WWANREF 2.UZ29,CZ154,CZ155,RZ360,CZ150,CZ151,CZ152,CZ153,CZ110,CZ111,RZ43,DZ5,DZ6,CZ37,RZ1406,CZ217,UZ52,RZ1405,RZ1400,UZ51,CZ216,QZ19,RZ1399,RZ1397,QZ8,CZ117~CZ21 change to WWAN@	0.3 (X02)

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